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Vol. 159, No. 7

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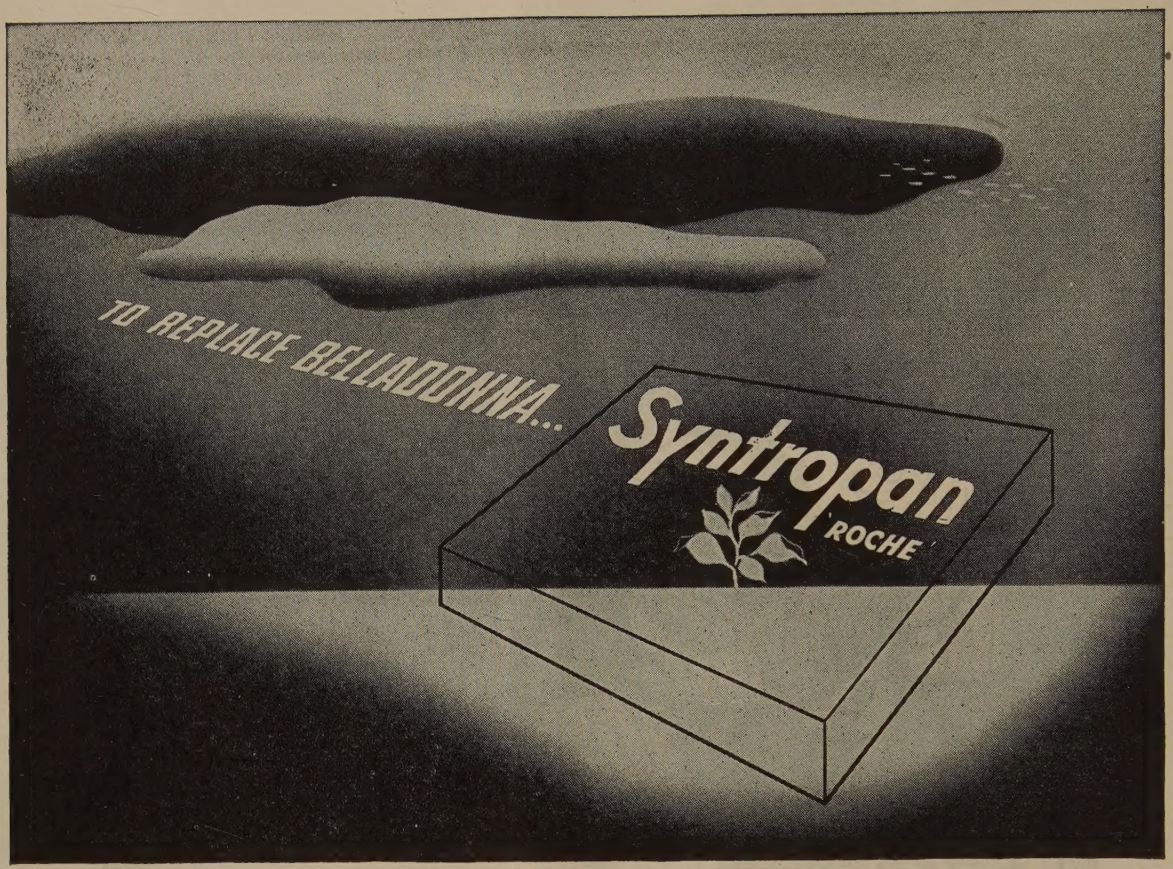

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JULY 1946

OPEN FORUM 390

EDITORIALS 423

PAPERS AND ADDRESSES

Chronic or Latent Malaria and Its Sequelae
George Zuelzer, M.D., New York, N.Y. 405

Lithogenesis and Hypovitaminosis
W. J. McCormick, M.D., Toronto, Canada 410

Disturbed Personality Due to Sexual Neurasthenia
Samuel A. Savitz, M.D. and *Samuel Chartock, M.D.*, Philadelphia, Pa. 413

Roentgen Therapy of the Arthritides and Ligamentous Tendinous and Bursal Inflammations
Louis J. Gelber, M.D., Rockville Centre, N.Y. 415

Gold Salts in the Treatment of Rheumatoid Arthritis
Hyman Oren, M.D., Park Ridge, N.J. 420

The Action of Hormones on Varicose Veins in Pregnancy
A. J. D. Marazita, M.D., Bronx, N.Y. 422

SPECIAL ARTICLES

Doctor's Letters *(Concluded)*
Solomon R. Kagan, M.D., Roxbury, Mass. 429

Letter from Britain 428

NEWS ITEMS 425

BOOK REVIEWS 431

MEDICOLEGAL NOTES 434

VOL. 159, No. 7
WHOLE No. 2762

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New Drugs for Control of Virus Diseases

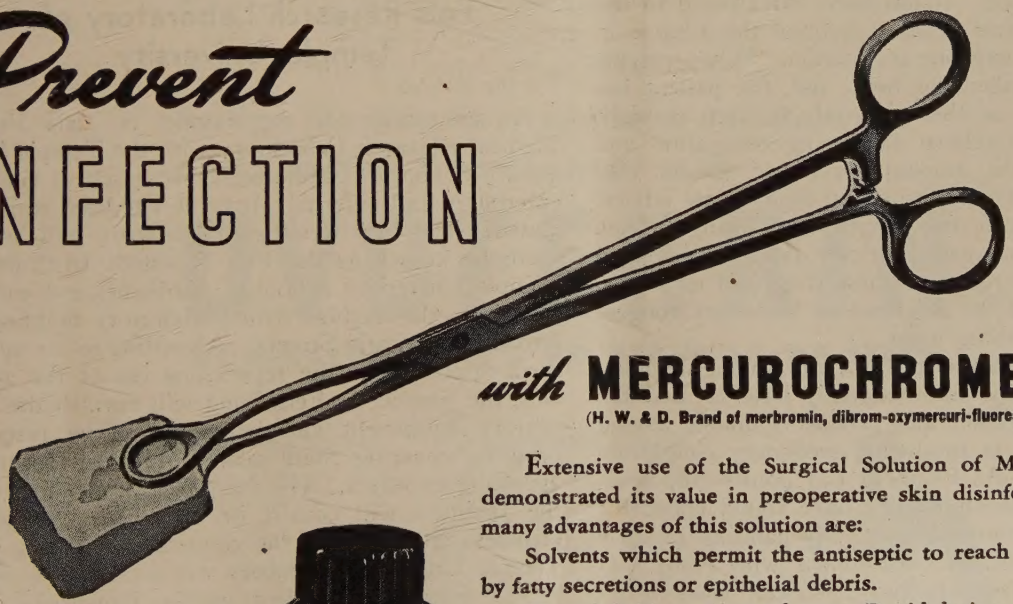
Dr. Selman A. Waksman, professor of microbiology at Rutgers University, in an address delivered at the George Westinghouse Centennial Forum, held in Pittsburgh, Pa., May 16th, predicted that the time is not far off when such diseases as the common cold, infantile paralysis and tuberculosis will be brought under practical control through the enlargement of medical knowledge and the development of new drugs. Dr. Waksman, who discovered streptomycin, said that within a period of only five years, we had witnessed the development of radically new methods of treating a variety of diseases in man and in animals, that the possibilities were just being explored, and there was promise of greater things in the future, notably in finding agents to combat a great variety of diseases, especially the viruses, against most of which no effective agents are known at present. Pointing the way to such knowledge, he continued, studies were being made of the microscopic forms of life commonly referred to as microbes, some of which he classified as injurious to man and others as beneficial.

"Not so very long ago man was at the complete mercy of the microbes. Pestilence and epidemics have influenced history in far greater and more important ways than have battles. The progress of man was often changed or delayed by the harmful effects of microbes, which may have caused the destruction of crops with the resulting hunger and starvation, the outbreaks of epidemics, such as bubonic or black plague and cholera, which profoundly affected historical events. As late as the turn of the century more soldiers died from typhoid than from shots of guns and cannons. At the present time typhoid scarcely ever appears in our armed forces. During the first World War the deaths from typhus and from influenza, from gas gangrene and other wound infections greatly exceeded the deaths caused in actual battle. Other scourges, like malaria, pneumonia and syphilis have now been brought under practical control; their causes and effects are well understood and excellent treatments are known.

"Although many important diseases, such as influenza and the common cold, poliomyelitis and rheumatic fever, tuberculosis and undulant fever are still rampant or may become so under certain conditions such as those following a long period of malnutrition or social maladjustment in a post-war period, the time is not far off when these scourges, as well, will be brought under practical control."

Chemotherapy, beginning with the use of salvarsan, the introduction of the sulfa drugs and finally the application of antibiotics, he said, in conclusion, was only at the threshold of a great epoch in human history that would no doubt prove of great usefulness in combating diseases caused by microbes.

Prevent INFECTION



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Open Forum

Nasal Vasoconstrictors

HENRY M. SCHEER, M.D.
New York, N. Y.

Several authors (1, 2, 3) in this and other journals have drawn attention to the secondary congestion arising from misuse of the nasal vasoconstrictor, privine. The experiences of these authors appear, in general, to have been closely parallel. In each instance, the writer claims to have seen a number of patients suffering from chronic turgescence of the mucosa covering the inferior turbinates. The history of these patients reveals that they had originally commenced to use privine nose drops for coryza or allergic rhinitis. Initially, the medication had provided effective relief for several hours but over a period of time the turgescence had become gradually worse and the period of effectiveness of the drops had steadily decreased. The final proof of the responsibility of privine for the congestion has rested upon the fact that cessation of medication for a period of several days was invariably followed by return of the mucosa to normal.

Without wishing to dispute the experience of others, I believe it worthy of putting on record that privine solution, both the 0.1 and 0.05 percent concentrations, has been used routinely in my active private practice and clinics for the past three and a half years in all cases in which nasal decongestion has been required. It has been our custom to use a maximum of two to three drops of the solution in each nostril at any one instillation. When privine has been prescribed for home use, the patient has been advised to use the drops only as often as might be necessary to relieve distressing congestion and then only in the amount mentioned above. By means of periodic check-up and appropriate advice, patients have been discouraged from using privine or any other nasal vasoconstrictor over too prolonged a period. As a result of these combined measures, we have reduced the incidence of secondary congestion to the vanishing point.

We believe that the several publications previously mentioned may unintentionally have created the erroneous impression that privine is unique among vasoconstrictors in producing secondary congestion when misused. As Feinberg (3) points out, Scarano (4) and Sternburg (5) have found ephedrine and other vasoconstrictors equally liable to produce secondary congestion. We concur with Kully (6) in the opinion that any vasoconstrictor used to excess may produce the typical signs and symptoms. Without entering upon a discussion of the underlying mechanism of the phenomenon, we feel it to be a direct reaction to tissue anoxia arising from the vasoconstrictor itself. If this be true, the liability of a vasoconstrictor to produce this effect will depend upon its potency and duration of action. The more efficacious the constrictor the more likely is it to produce secondary congestion if it be misused. The means of avoiding this complication appear to lie in adequate instruction of the patient by the physician along the lines suggested in the professional literature accompanying the package, coupled with periodic check-up of those patients who must necessarily use vasoconstrictors for a protracted period. The new small-size dropper now being issued with this preparation which automatically limits the amount delivered at any one filling should also tend to reduce the incidence of this condition.

Provided these considerations are kept in mind, we believe privine as safe as any other vasoconstrictor available and considerably more effective.

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522 West End Avenue

Fels Research Laboratory of Temple University

To the Editor:

An association of the Samuel S. Fels Funds Medical Research Laboratory with the Temple University School of Medicine for research in Gastroenterology and Internal Medicine has been consummated. The Fels Research Laboratory will henceforth be known as the Fels Research Institute of Temple University School of Medicine, and will be located in the medical school laboratory building at Broad and Ontario Streets. According to the agreement approved by the representatives of the agencies, the Samuel S. Fels Fund will furnish the laboratory equipment and will finance the research program covering Staff salaries and the institute's operating expenses. The management committee of the Institute will consist of an equal number of members appointed by the cooperating groups. The Temple University members will include Dr. Robert L. Johnson, president of the University, Dr. William N. Parkinson, dean of the Temple University School of Medicine, Dr. Charles L. Brown, head of the Department of Medicine, and Dr. Robert H. Hamilton, chairman of the Medical School Committee on Research. The Fels members are to be designated by their board.

Dr. Harry Shay, who has been in charge of the Fels Research Laboratory since its establishment in 1934, will be continued as director of the new Institute.

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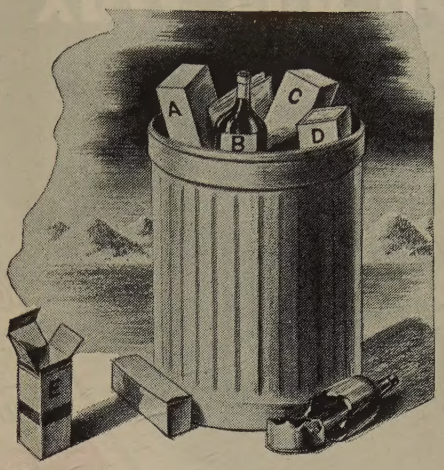

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by HEYDEN

Where there is evidenced an inability to maintain therapeutically effective concentrations of penicillin in the blood stream, medical literature suggests massive, single daily injections of penicillin in oil and wax by intramuscular injection. This is considered an effective method of prolonging action of the agent in the body. It has produced excellent results in the treatment of gonorrhea.

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"The use of this penicillin mixture in the treatment of gonorrhea has, in the hands of various investigators, produced excellent results." Chinn, Ben D., Olansky, Sidney and Murphy, Iva G., Medical Annals of the District of Columbia, 15:2, 62-63, (Feb.) 1946

"...one of the most promising methods so far described for prolongation of the action of penicillin in the body. Optimal results are obtained from mixtures containing approximately 5 per cent beeswax and 300,000 units of penicillin per cubic centimeter." Capt. Kirby, William M. M., Capt. Martin, Samuel P., Maj. Leifer, William, and Lt. Col. Kinsman, J. Murray, The Journal of Laboratory and Clinical Medicine, 31:3, 313-316, (March) 1946

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The culmination of the plan just accepted has been made possible through the generosity and foresight of Samuel S. Fels, Philadelphia manufacturer, who has long since had a deep interest in research in many fields. Mr. Fels has had the vision to see the tremendous possibility for improving the well-being of mankind by the application of scientific research techniques to human problems.

William N. Parkinson
Dean, Temple University Medical School and Hospital, Philadelphia, Pa.

Importance of a Proper Diet

To the Editor:

I received your most interesting journal the other day. The article entitled "The Body's Building Blocks" was certainly most instructive and should be read by every physician in the United States so that he may advise his patients that a constructive diet will be of great help in the maintenance of better health.

If the farmer fed his stock as the human being feeds himself, he would have to have a veterinarian on hand at all times. He sees that his stock gets the proper food so as to get the best results. His stock, therefore, get an abundance of vitamins in their fodder, and the farmer does not have to rush to the drug-store to get the needed vitamins. But man throws the vitamins into the garbage can, and to finish the job he sees that "the day-lights" are cooked out of the rest so that precious few vitamins are left in his food. And so his body suffers from the deficiency.

I am sending you a copy of a letter that I have written to Dr. Tom D. Spies, who is associate professor of medicine at the University of Cincinnati, as well as being director of the nutrition clinic at Hillman Hospital, Birmingham, Alabama.

Fifty-two years of practice have given me some new ideas about medical science, which may be correct or radically wrong, but I am from Missouri, and, so to speak, have a "why?" in my make-up.

I seriously believe that the advocates of socialized medicine are putting the cart before the horse. I believe that our young people should be given sounder knowledge in regard to health and hygiene, in order that they may so treat their bodies, that they will have health instead of sickness as they grow older. When they get this knowledge, they will see the value of a periodic "check-up" at the hands of the doctor and by this examination be kept on the path that means good health. If they disregard their bodies, they will then have only themselves to blame for their predicament.

When we note the loss that is entailed by being sick, it is about time we took steps to correct this condition, so that those who have any mentality will decide they will do what is needed of them to see that they personally are not the victims of their own folly.

I wish to thank you for the copy sent.

Charles W. Reynolds, M.D.
Covington, Ky.

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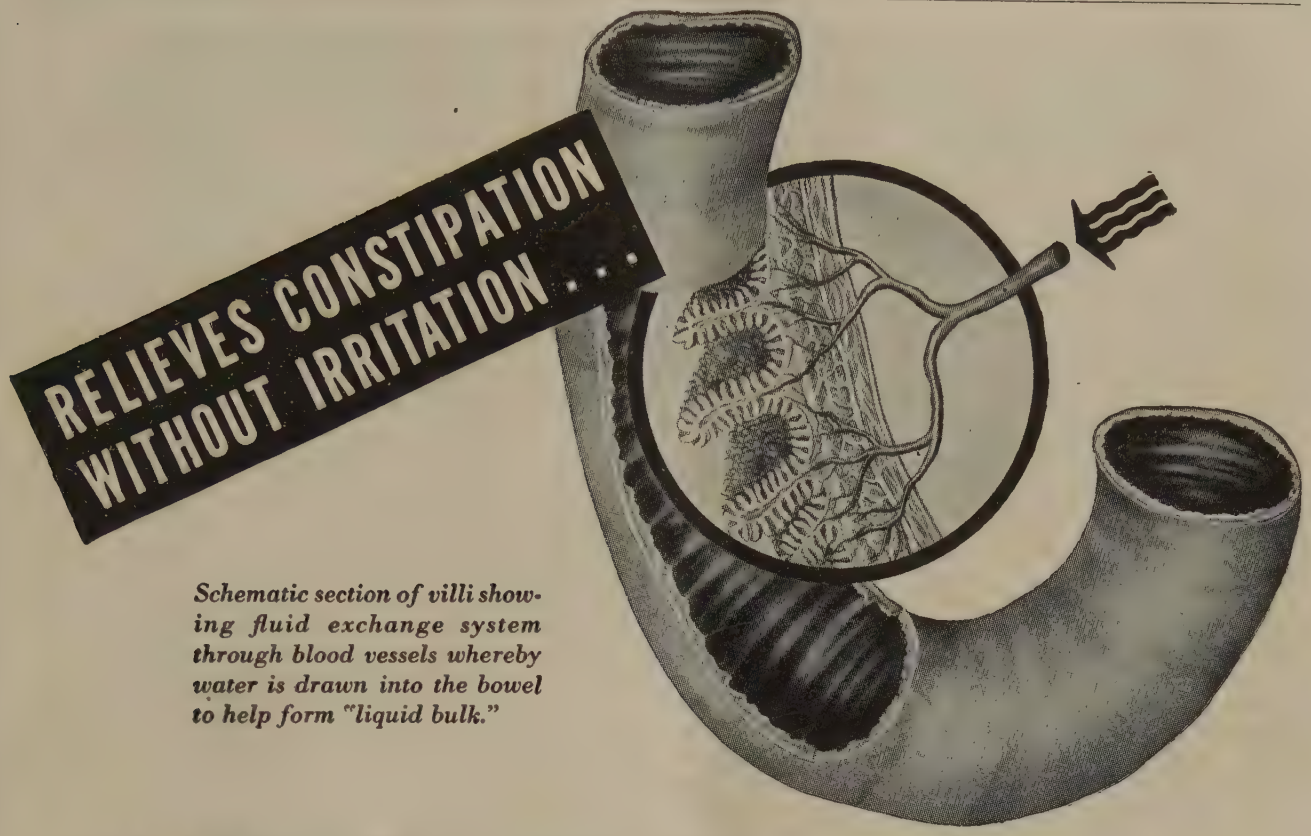
Penicillin Aerosol in Bronchopulmonary and Sinus Infections

Dr. Alvan L. Barach, Dr. Bettina Garthwaite, and Dr. Colter Rule read a paper at the annual meeting of the Medical Society of the State of New York, on the use of penicillin aerosol in the treatment of bronchopulmonary and sinus infections. They stated that Bryson, Sansome and Laskin, working with rabbits and normal human beings, suggested the use of penicillin aerosol and showed that substantial amounts of the drug appeared in the urine following its inhalation. Barach and his co-workers developed practical techniques for its use in patients and reported on the clinical effectiveness of these methods in bronchial asthma, bronchitis, bronchiectasis, lung abscess, pulmonary fibrosis, emphysema and sinusitis. These studies indicated: 1, that the method was clinically effective in selected cases; 2, that the predominating gram positive organisms in the sputum culture were consistently absent twenty-four hours after termination of treatment and that then gram negative organisms appeared in the sputum culture, including Bacillus aerogenes, Bacillus proteus, Bacillus coli and Bacillus pyocyaneous; 3, that an effective blood level could be maintained by adequate dosages. It was noted that in fifteen cases where there was improvement, seven patients suffered a recurrence of symptoms in two months or less. Since that time favorable reports on the inhalation of penicillin aerosol have appeared, notably Segal in cases of bronchiectasis, lobar pneumonia and lung abscess; Olsen in bronchiectasis; and Vermilye in bronchial asthma and various types of sinobronchial infection. Hampton et al. found no significant benefit from inhalation of a mist of penicillin, but in their nine cases there was no consistent differences in the cultural growth of sputum organisms as a result of treatment.

Andersen and St. Agnese showed that children with staphylococcus bronchitis and pneumonitis, which developed in association with pancreatic disease, were at times benefited by inhalation of penicillin aerosol when improvement had not been obtained by intramuscular injection of penicillin.

The authors stated that the advantage of penicillin over the sulfonamides in aerosol form not only included its greater bacteriostatic power against streptococci and staphylococci but its bacteriostatic power was not inhibited to an appreciable degree by purulent secretions or by p-aminobenzoic acid, which did impair the action of sulfanamides.

The relative efficacy of intramuscular as contrasted with inhalational administration of penicillin required further study, the authors concluded, since there were obvious difficulties in predicting the course of an individual patient. In cases where treatment was continued over a long period of time the aerosol method was feasible and free from some of the disadvantages of repeated injection of penicillin. In those conditions in which a plentiful growth of bacteria took place on a bronchopulmonary surface not reached by an adequate blood supply, inhalation of nebulized penicillin appeared to be theoretically of special value.



Schematic section of villi showing fluid exchange system through blood vessels whereby water is drawn into the bowel to help form "liquid bulk."

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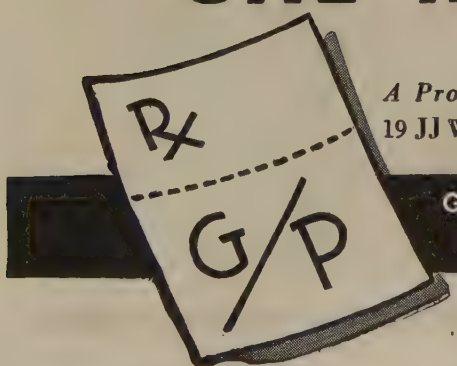

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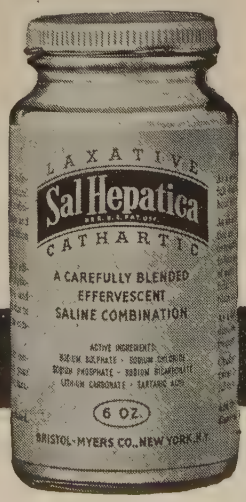

Military Deaths in World War II

In presenting a summary of the total number of battle casualties in World War II, the *Statistical Bulletin* of the Metropolitan Life Insurance Company (Jan. 1946), said that just how great the military loss of life was will probably never be known with accuracy, because in many of the countries there were only vague statements regarding these casualties. In fact, the United States and the British Empire are the only major powers for which official and fairly complete statements of battle losses are available.

It is estimated that the combat losses of the belligerents in World War II are about 9,500,000 to 10,000,000. The actual figure cannot be much less; it may be somewhat higher. Axis losses, estimated conservatively at about 5,000,000, were appreciably greater than those of the United Nations, whose battle toll is estimated to have been in the neighborhood of 4,500,000. Germany's military losses, estimated at 3,250,000, have been the heaviest of any country in the war. It is estimated that the Japanese lost about 1,500,000 men, and Italian combat losses were probably 150,000 to 200,000. The aggregate losses for Germany's other satellites are estimated to have been 225,000. Of this total, Rumania's losses account for about 100,000, Hungary's for about 75,000, and Finland's for about 50,000. Bulgaria's losses were insignificant as compared with those of other Axis countries.

On the United Nations side, Russian losses were the heaviest by far. They are estimated at approximately 3,000,000, or about two-thirds of the total combat losses suffered by the Allies. The second highest military toll among the United Nations was borne by the British Empire, whose battle dead are estimated at 375,000 to 400,000. The United States was next in rank among the Allies with respect to battle deaths. The final total of our losses on all fronts of World War II is not yet established, but it is probably close to 325,000.

The battle deaths of our other European Allies are estimated at nearly 450,000, excluding deaths incurred by forces of the underground. French losses, including those of the Free French, are officially estimated at 167,000, but to this figure may properly be added the many underground fighters among the 100,000 French civilians executed by the Germans between 1940 and 1944. Poland's losses amount to about 125,000 including the deaths in the Polish forces fighting alongside the Allies after the collapse of their country. This excludes fighters of the Polish underground. Death losses of 15,000 to 20,000 were claimed in the battle of Warsaw in 1945. Yugoslavia's toll during her guerilla warfare against the Germans and Italians is estimated to be in the neighborhood of 75,000. Greek losses are estimated at 50,000. The Belgians report over 7,000 combat deaths, the Dutch, more than 6,000 in the five days of fighting in May 1940, and the Norwegians about 1,000. Deaths of underground fighters in some of these cases exceeded those of men in uniform. China's military deaths since Pearl Harbor are conservatively estimated as 250,000.

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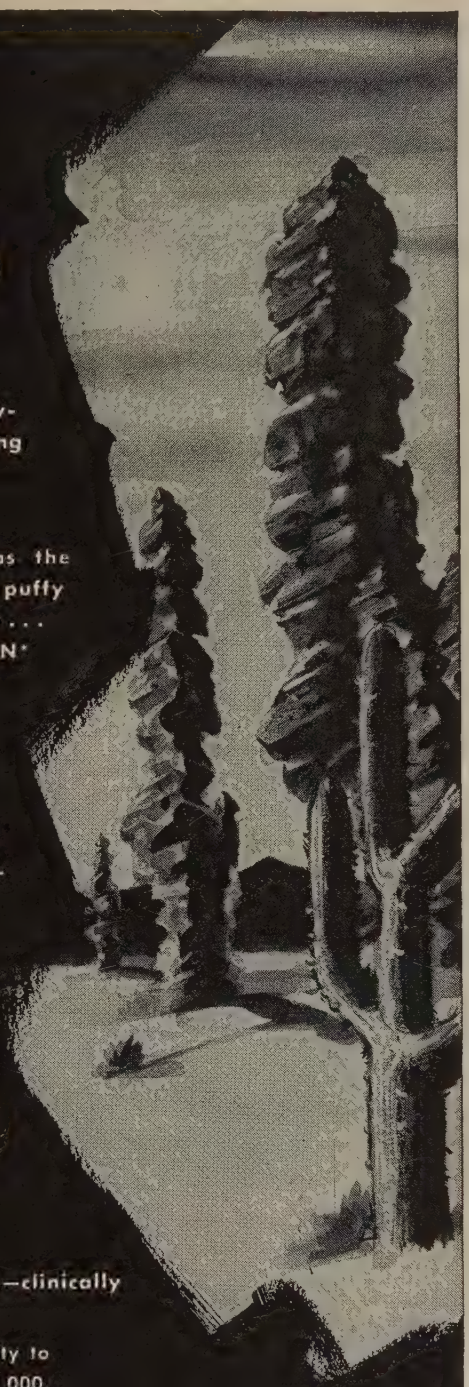

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Winthrop Grants for Research

Grants, totalling $92,500, have been made by Winthrop Chemical Company, Inc. for special medical research projects in universities, hospitals and foundations during 1945-46, according to a report made by Dr. J. B. Rice, vice president and director of medical research, to the National Research Council. Some of these grants cover research that will not be completed until 1947-48.

The largest single grant is for the study of tuberculosis, and the recipients are Drs. George V. Kropp and Cleveland Floyd, whose investigations, starting in May this year, will continue through April 30, 1947. Universities, hospitals and foundations are listed among the recipients. The New York Botanical Garden received two grants for the study of plant molds and fungi, and a donation was made to the American Institute for the History of Medicine.

Studies of antibiotics are currently being carried on at Massachusetts General Hospital, Boston, Mass., while continuous caudal anesthesia was studied at Cook Hospital, Chicago, under two grants that expired in May of this year. Hahnemann Hospital, Philadelphia, received a grant last month for anesthesia investigation.

A fellowship in pharmacology was established at Yale University to run to September 30, 1947. Columbia University, New York, has received two grants for the study of tropical diseases and enzyme chemistry. At Harvard University, Cambridge, Mass., two investigations are concerned with antiseptics and detergents, and mercurial diuretics.

The following universities likewise received two grants each: Michigan State College, Lansing, a grant for investigations in chemistry that started last October and will continue through May, 1948, and one for the study of plant molds and fungi; New York University, for a study of pyrogens and pharmacological and clinical investigations of new drugs; Stanford University, San Francisco, fellowship in pharmacology which will run through the calendar years of 1946 and 1947; University of Minnesota, Minneapolis, for a study of epilepsy and pharmacological and clinical investigations of new drugs; University of Texas, Galveston, studies in anesthesis and a study of vitamins and Diodrast; George Washington University, Washington, D. C., investigations in pharmacology; and Washington University, St. Louis, studies in internal medicine.

Other colleges on the list are Albany Medical College, Albany, New York, a research fellowship; Emory University, Georgia, studies in nutrition; Rensselaer Polytechnic Institute, Rensselaer, N. Y.; a fellowship in chemistry; University of Chicago, Chicago, John J. Abel Fellowship in Pharmacology; University of Utah, Salt Lake City, fellowship in pharmacology; University of Wisconsin, fellowship in chemistry; and University of Manitoba, Winnipeg, a grant made to study problems in sanitation.

The two foundations are the Alton Ochsner Medical Foundation, New Orleans, for investigations in the department of chemistry, and the American Foundation for Tropical Diseases.

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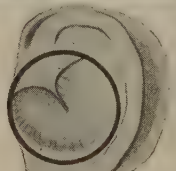

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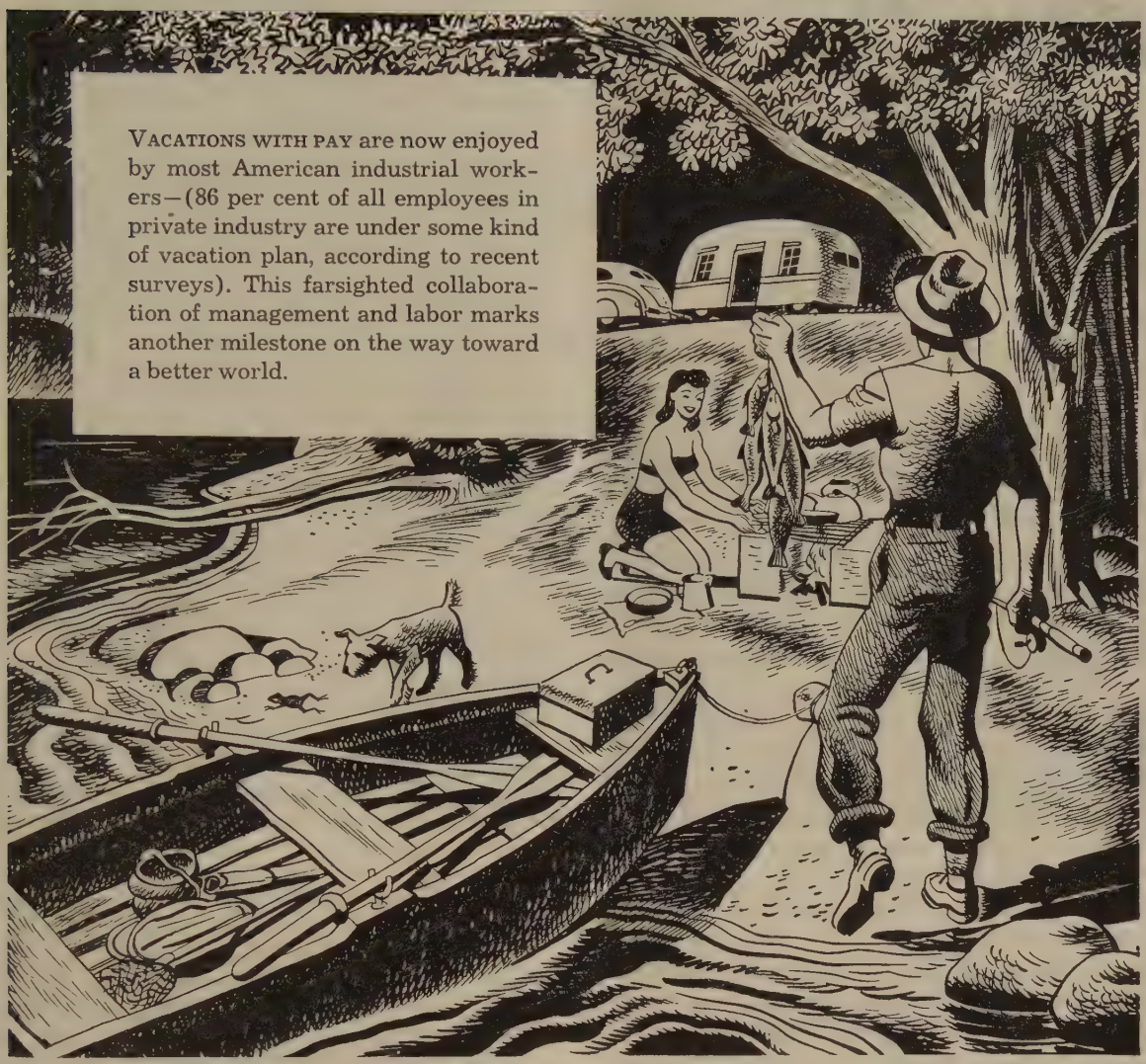
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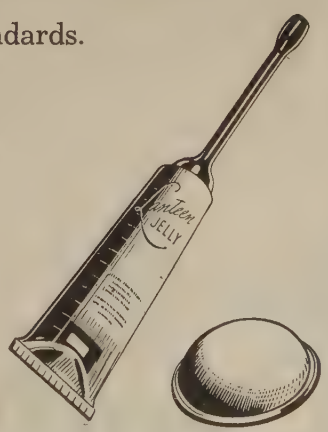

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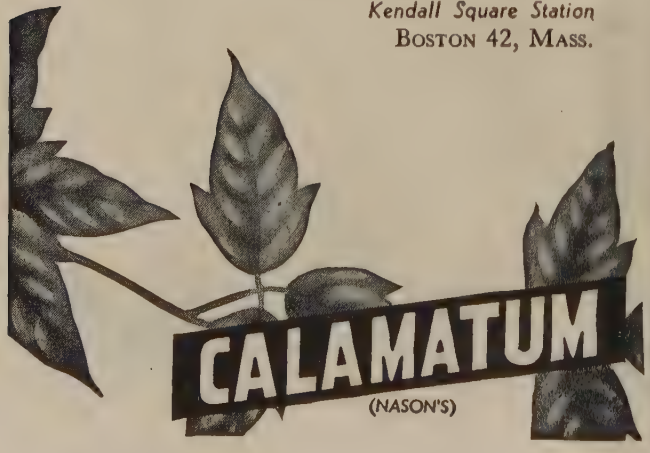

Dr. John Caius (1510-73)

Dr. John Caius, of Shakespeare's *Merry Wives of Windsor*, was born in Norwich, Norfolk, England. His surname is a Latinized form of his English surname, Kaye, Kays, or most probably Keyes, the manner in which it is now pronounced. In his day Latin was the language used by men of education in Europe and England. Caius rose to great fame as a physician, medical writer and as a refounder of Gonville and Caius College, Cambridge University which is known generally as Caius College. One of the original founders of Gonville Hall was Edmund Gonville, at that time rector of Terrington-St. John, Norfolk. The other original founder was William Bateman, Bishop of Norwich, up to 1295 A.D. widely known as William of Norwich who was a great churchman, a great patriot and diplomatist who served his country and church ably.

From an autobiography left by Caius, which is still in existence, the main incidents of an outstanding career may be gathered. In his native city, Norwich, he received a sound elementary education. He had the gift of imbibing and assimilating knowledge and became a student of Gonville Hall, Cambridge University, at an early age. He received the degree of M.A. and was elected a Fellow. In 1559 Caius entered the University of Padua, at that time the most widely known seat of learning in Europe and celebrated for its teaching of medicine, anatomy and surgery. At first, he lectured on the Greek text of Aristotle, and then took up the study of medicine and surgery. It appears likely that he was attracted to medicine by the brilliancy of the staff of Padua on that subject. Anatomy was taught by perhaps the greatest figure in that category of any time, Andreas Vesalius, the man who revolutionized the knowledge of anatomy and consequently its teaching. Caius became his close friend and lived in his house during eight months. His teacher of medicine was Giovanni Battista della Monte (Montanus, 1498-1552). Thus Caius learned all that was then known of anatomy, medicine and surgery from the highest authorities and took the fullest advantage of his opportunities.

In 1541, he received the M.D. degree of Padua and went on an extended tour of Italy, meeting many leading Italians, at a time when Italy was foremost in the arts, including medicine and surgery, if these may be termed arts. At Florence, he was the guest of Cosmo de Medici, at whose court were to be found men notable in all branches of literature and art. Even science was beginning to emerge and to make some headway, possibly due to the fact that Leonardo da Vinci (1452-1519), perhaps the greatest all round genius ever known, was not only born in Florence but did some of his best work there. He had a quite remarkable insight into science, embracing, or at least touching upon the entire field, from mathematics to physiology, and forestalling many of the wonderful discoveries of recent years.

From Italy Caius proceeded on a similar tour through France and Germany and, as in Italy, visited libraries, institutions, the homes of great men, and of all of these he recorded his impressions. Among those he met was Melanchthon, and the great contemporary of Leonardo da Vinci, Albert Durer of Nuremburg. Caius returned to England in 1544, his

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head stored with knowledge of this and that, mainly of that pertaining to anatomy, of which it may be assumed he had learned much from his teacher and friend Vesalius and of which English physicians and surgeons were relatively ignorant. He lived for some time at Shrewsbury and at his birthplace, Norwich.

While at Shrewsbury, an epidemic of sweating sickness broke out, no doubt brought from Europe by the constant travelling between the Continent and England. Caius wrote a tract on the disease, in English, which he expanded later into a Latin treatise. Among his numerous writings, this treatise on the sweating sickness is the most important, from the medical point of view. In English, it is quaint in its language and phraseology according to modern ideas, but very much to the point. It may be emphasized that all men of education, those at universities, cultured medical men, and clergymen communicated with their European friends or correspondents in Latin and when visiting Europe or when Europeans came to England, spoke in Latin. Among learned men, there was no Babel of tongues.

In 1557, Caius began the task to which he devoted the remainder of his life and which set the seal on his fame. He had accumulated wealth, and was known far and wide in his own country and outside as an able physician and writer. He was unmarried and had no family ties and determined to spend the rest of his life, his wide knowledge and money, to providing means for educating students of the middle class, and at the same time making for himself a monument more lasting than brass. He achieved his purpose in a large measure.

In 1557 he obtained letters from King Philip of Spain and Queen Mary of England to refound Gonville Hall, Cambridge University, he being declared a cofounder with Edmund Gonville and William Bateman, Bishop of Norwich. In 1559, he became its master and found full scope for his organizing powers in his efforts to transform an unimportant Hall into a College of high standing among the Cambridge Colleges. He used his brains and expended money without stint in trying to gain his object, and again he succeeded. Among other additions and improvements he enlarged the site and erected a court together with the three gates, Humility, Virtue, and Honor. He impressed his great personality upon all with whom he came in contact, and upon all he did. He had an undeservedly rough road to travel and many obstacles to overcome or evade. He was an ardent Roman Catholic and, in his time, England and, perhaps, especially at Cambridge University, Roman Catholicism was in disrepute. New brooms are said to sweep clean and the new brooms attempted to sweep Caius away. However, he was a doughty fighter and retaliated as best he could but in many instances was hopelessly handicapped. He felt compelled to resign his post as physician to Queen Elizabeth. His opponents antagonized and embarrassed him at every move he made and embittered his closing years. It has been suggested that his life was shortened by the growing intolerance of the times.

He had his compensations. His reputation as a physician and medical writer was international and untarnished. He was regarded in Europe as the greatest physician of his day and in England his fellow physicians showed their faith in him by electing him nine times as president of the Royal College of Physicians.

Caius' medical writings possess great value. Not only was he a profound scholar but was distinguished for his remarkable powers of observation, such powers, of course, are the mark of a great diagnostician, that is, he was able to detect the important points in examining a case of sickness or injury and to describe precisely what he saw; therefore, to indicate the mode of treatment. It is said that his treatise on the symptoms of sweating sickness is the classic account of that epidemic and that his works on that subject should be regarded as the most important medical writings brought out in England up to the time of William Harvey, another medical graduate of Caius College, Cambridge University and Padua University. In connection with Harvey it may be added that he bequeathed the house at Folkestone to Caius College.

Caius' writings were clear and terse, a quality in his days observed but seldom when physician's writings were involved and long winded. It has been suggested that he modelled his style on that of Celsus, the Roman writer, who wrote literature as the Greeks wrote it. The English of Caius is vigorous. He was an excellent naturalist and appears to have been conversant with most departments of learning of his day. He was unique among English physicians in that he was appointed physician to three sovereigns in succession and had the confidence of a fourth, Henry VIII. Above all, he achieved his heart's desire in raising the College of which he was the principal founder, to a high position among the Cambridge Colleges and it was by his own individual efforts that he placed the coping stone on these successful endeavors. He compiled the annals of the Royal College of Physicians from its foundation. He was a voluminous writer and the list of his writings contains seventy-two titles.

Caius was the greatest physician in England before Harvey and one of the most capable English physicians who ever lived. He does not deserve to be forgotten and the ancient city of Norwich should be proud of him. He died in 1573 and was buried in the chapel of the College which he made and loved. The simple inscription on the tomb, *"Fui Caius. Vivit post Funera virtus"*, is very different from the turgid and fulsome inscriptions on the tombs of lesser men.

Rheumatic Fever

"Rheumatic fever is today one of the foremost problems of childhood" said Dr. Albert D. Kaiser, Rochester, at the recent annual meeting of the Medical Society of the State of New York. Between the ages of five and nine, he continued, deaths from this disease were outnumbered only by those from the four principal communicable diseases of childhood as a group. Even mortality from pneumonia had fallen below that for rheumatic fever. In the Scandinavian countries where rheumatic fever is a reportable disease the incidence per annum has ranged from one to three per one thousand. In London where only the child population had been considered, the incidence was 1.8 per one thousand. In this country juvenile deaths from cardiac disease, age group of five to twenty-four, have amounted to seventeen per one hundred thousand population.

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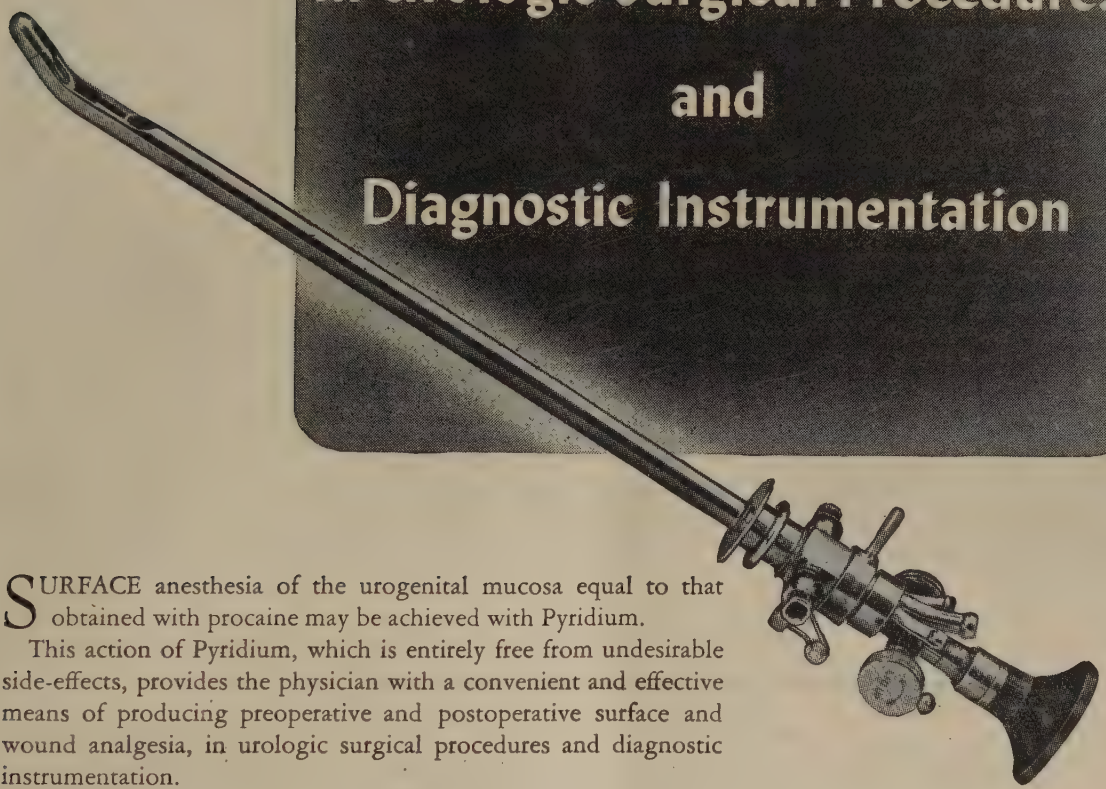

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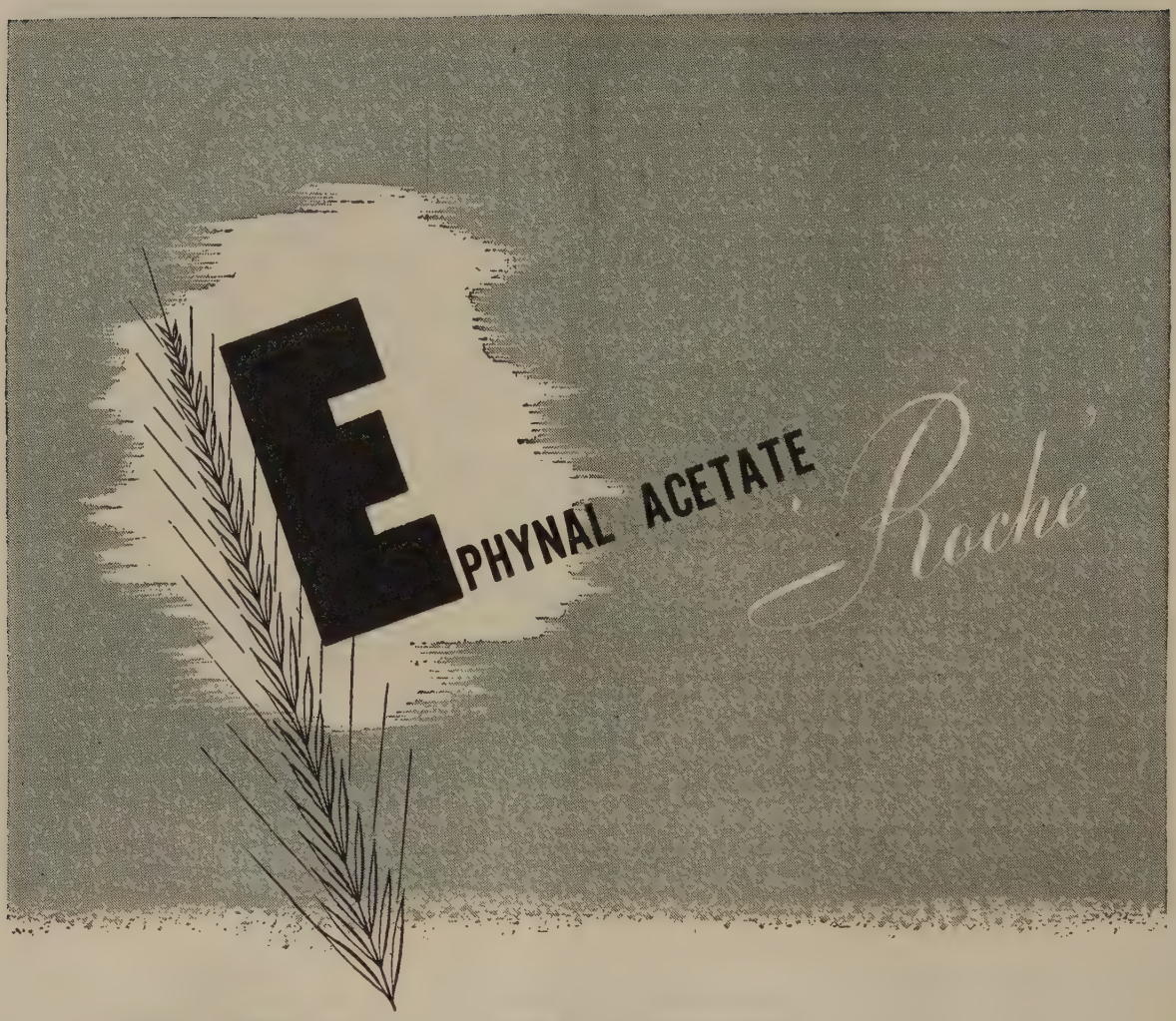

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*A. T. Hertig & R. G. Livingstone, *New England J. Med.*, 230:798, 1944

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CHRONIC OR LATENT MALARIA AND ITS SEQUELAE

Hay Fever and Other Allergic Conditions

GEORGE ZUELZER, M.D.

New York, N.Y.

Under the startling heading, "Cure for Malaria is Revealed after Four Year $7,000,000 Research" the *New York Times* of April 12, 1946 published an account of a report of the Committee on Medical Research which conducted an intensive study of the effect of some fifteen thousand newly developed drugs under the auspices of the Office of Scientific Research and Development. The report points out that nearly one half of the world's population is incapacitated as a result of this disease.

The report refers to the fact that quinine and atabrine which have constituted the principal drugs which have been used until now in fighting malaria, have proved effective only in suppressing the "falciparum" or nonrecurring type of malaria, but only temporarily suppressed, without effecting a permanent cure, the "vivax" type or relapsing malaria. Some of the newly developed drugs according to Dr. James A. Shannon, New York University, who was a member of the committee in charge of the four year research, promise to prove effective against "vivax" or relapsing malaria. He refers to them as "relatively nontoxic curative agents for vivax malaria". Dr. Shannon is quoted in the *Times* as saying: "It remains to be demonstrated, however, that this and other promising compounds of this series do not cause hemolytic anemias which are characteristic of pamaquin administration. These anemias occur more or less exclusively in colored and mixed races, the bulk of the inhabitants of the most hyperendemic areas. If it turns out that this is the truth, then we will have available truly curative agents of a relatively low order of toxicity."

It is the object of this article to report briefly the results of my study of malaria over a period of about fifteen years in connection with an active medical practice, in the course of which complete cures of chronic or latent malaria have been effected in numerous cases without the use of medicaments, but solely with enzymes which cause no toxicity.

Before dealing with my own experiences I feel it important to bring out the nature and prevalence of malaria. The Medical Research Committee's report, referred to above, speaks of relapsing malaria. I emphasize the term "latent" malaria not because it is different from relapsing malaria, but because of the widespread existence of this form of malaria which may not become manifest in the form of a relapse over a long span of an individual's lifetime, but which he harbors in his system nevertheless and which may appear in the masked form of neuralgia, or other diseases, which will be mentioned later, the symptoms of which it stimulates.

The *Yearbook of General Medicine* for 1940 contains a most important contribution to the subject of chronic malaria by Doctors George H. Fonde and Edgar C. Fonde of Mobile, Alabama. They base their discussion on forty-two years of active practice. Many of their patients have been observed from fifteen to thirty-five years. They stress the fact that malaria is a chronic disease, and not merely an acute infection of the blood stream, characterized by chills and fever. Failure to comprehend or detect its insidious course and its strong tendency to relapse even after months and years, accounts for the fact that it still ranks as one of the serious social and economic problems.

The classic forms constitute the minority of cases and are largely limited to well known areas. In dealing with chronic malaria, the physician is confronted with a complex problem. In this stage of the disease it is not easily recognized and it is difficult to demonstrate the parasite. Chronic malaria may resemble a number of common local or systemic diseases because it tends to become asymptomatic during some phases of its course and because there are no geographical limitations to chronic malaria as contrasted with earlier typical infections which are largely confined to endemic areas. The incidence of malaria in the United States has increased during the last decade with a steady rise in the mortality rate. It has spread northward and westward beyond the socalled malarial zones according to the Commission of the League of Nations on Malaria (1934, four million new cases of malaria; 1936, six million).

This is confirmed by the report of the U.S. Department of Agriculture, published in the *Farmer's Bulletin* No. 450, 1911, and slightly revised in 1932: "Such relapses are frequently encouraged by fa-

tigue, heat, chills, wetting, dissipation, or illness, and they may occur at intervals for a long time after the patient is first infected by the mosquito, and even after he has moved to localities where there is no malaria." This shows that the Public Health Service was among the first to realize that latent malaria exists even in nonmalarial regions.

Another observer, Korovitsky, maintains on the basis of his observations of ten thousand patients in the course of thirteen years in the dispensaries of Odessa, that chronic malaria does exist in a moderate climate where reinfection is not possible. He disagrees with the often expressed view that malaria is always curable in from one to two years. In his material not more than forty percent were cured at the end of four years. He also found that the tropical form was more likely to be cured at the end of that period than the milder and more common tertian form. He takes exception to the view that the diagnosis of malaria is permissible only when the plasmodia can be demonstrated in the peripheral blood. He has observed many cases in which in the course of eight or nine years, from forty to sixty examinations of the blood for parasites were negative. Yet, the same patients in the course of an acute exacerbation exhibited a few parasites in the blood, or in the absence of parasites gave a positive melanoflocculation test (c.f. below). Among frequent manifestations of chronic malaria in the Ukraine are disorders of the nervous system, particularly of the peripheral or vegetative divisions

In accordance with the above cited observations no less eminent a physician than Craig stated in 1909 that out of 1267 cases of malaria with parasites in the blood twenty-one percent were latent.

Bass has recorded that out of one hundred individuals living in the Mississippi Delta who had never experienced a malarial attack sixteen percent showed typical malarial parasites in their blood.

Aldo Castellani of London writes in his classical manual of tropical medicine, after having described the positive symptoms of malaria: "The diagnosis of malaria may be simplicity itself or, on the other hand, it may be very difficult as there is no disease of the human body that it cannot mimic. Malaria should not be excluded by absence of parasites in the blood, absence of enlargement of the spleen or absence of "prompt reaction".

For obvious reasons it seldom happens that malaria cases can come under observant eyes from the incipience of the disease to the old age of the patient, as the cases which came under Fonde's observation.

Mattei of Algeria reports on sixteen cases followed after nineteen, nine, eight, etc., years. One of the most interesting is the case of an admiral, retired and living in France for many years. Every year he had from two to three attacks of malaria which he had contracted as a young officer.

Chauffard reports on one case of infection in the Dardanelles in 1917. Four or five years later the patients developed typical serious attacks of malaria. Many single cases have been reported. One, however, discovered by Nocht is worth referring to. A woman became gravely ill in 1927, so that a blood transfusion was necessary. The son was the donor. He had acquired malaria during the war, but after 1919 had never had another attack. The mother contracted typical malaria with plasmodia after the normal incubation time.

A case revealing opposite tendencies came under my observation. A man from Minnesota, in whom I had previously diagnosed latent malaria, donated a pint of blood for England. Two weeks later he had two typical malaria attacks. The following day, the liver and spleen were found enlarged. I found one crescent in the blood smear. The flocculation reaction of Henry was positive. Henry, himself, refers to a postmortem examination of a similar case known to him as one of latent malaria, with his reaction strongly positive but no plasmodia in the blood. The spleen was filled with malarial pigment.

In the case of my patient, obviously, the plasmodia hidden in the liver and spleen, as described by Henry, were drawn out of their hiding place into the blood stream by the physiological demand upon the circulatory system caused by the donation which brought about the attack.

To quote Sir Ronald Ross, the scientist, who by his studies of malaria in India and England, has done more than anyone else to propagate the knowledge of this infection, which from the economic viewpoint is perhaps the most important of all diseases: "As long as the patients continue to harbor malarial parasites at all, they will be subject to relapses of fever and may also infect other people, if any of the carrying anopheles can succeed in biting them." Ross points out that many people, especially native children, may harbor swarms of parasites and show no symptoms at all for considerable periods.

Relating to the chronic or latent forms of malaria he reports, as an illustration of a general rule, that his father suffered badly from malaria in India. He left India permanently in 1860; after 1889 he still had occasional attacks. Other people under similar circumstances had malarial attacks twenty years and more after leaving the tropics.

Finally, I should like to cite an interesting study by Professors Missiroli and Marino (*Stazione Sperimentale per la Lotta Antimalarica,* Rome, Jan. 1934) undertaken under very favorable circumstances, proving that latent malaria patients are the carriers and source of new infections. They emphasize that the crux of the problem of the eradication of malaria is the treatment of these carriers, looked upon as healthy members of society although they are not. The experiment was undertaken by the Italian scientists. As is well known, plasmochin can free the blood from plasmodia (at least for a time), so that in general mosquitos are unable to catch a monad themselves. Therefore, in a village situated in Sardinia with about seven hundred people, all of whom had been infected with malaria, the feverish malarial patients were treated with plasmochin about twice a week. No result was visible. All newly born children were as regularly attacked with marsh fever. Then in a similarly situated and populated village, plasmochin was administered in the same manner to the whole population

except to the newly born babies, with the result that out of forty-eight newly born babies only two fell ill with malaria. This surprising success of the new method of experimental epidemiology proves the great importance which latent malaria plays in this scourge and the absolute necessity of curing these carriers of latent malaria if one wants to approach the problem of malaria radically.

In the light of the observations made on malaria in different countries by different observers, independently of one another, it appears established that malaria, besides the acute attacks which play a relatively minor role is a chronic disease, which is not always curable. It may remain as a latent infection throughout the lifetime of an individual and cause few, if any, visible effects. It may begin with a typical attack, or, on the other hand, a typical attack may never occur. It may show plasmodia in the blood or they may always be missing. It may have relapses provoked by fatigue, heat, chills, etc., or by a secondary infection. Many socalled sequelae may develop, described also as masked malaria, mostly with the tertian form and they can embrace the most desperate kinds of infections, neuralgias, anemias, mental troubles, even insanity, general weakness, with or without hemorrhagic symptoms, etc. These clinical features exist extensively in non-malarial regions with temperate climates.

Today, Henry's serological test, recognized by the most prominent investigators of malaria, reveals malarial infection even when it has developed without any typical fever attacks. Now that the various departments of health in the United States have begun to use the Henry test, the importance of which is also emphasized by Fonde, we can expect that it will soon be introduced into private laboratories and the practitioner will take into account the possibility of latent malaria whenever he meets with an unusual case. The obvious analogy to this is the status of syphilis forty years ago after the discovery of the Wassermann reaction (1906). Ten years passed before the conception that tabes dorsalis and general paresis due to a previous syphilitic infection became commonplace. However, unlike tabes and paresis there is the hope that the new treatment of latent malaria will help both the primary disease and the sequalae.

All these findings to which I have referred above are based on clinical and microscopic examinations of the blood. In 1928 Dr. Henry of Algiers described a serological test which in a relatively short time was acknowledged in different countries as valuable in the diagnosis of malaria. The results show a striking parallel between the serological test and the clinical manifestations. In fresh cases it is possible to obtain a negative reaction after a strong course of antimalarial treatment. That does not mean, as has been explained, that the malaria infection is definitely cured. In obstinate cases with many relapses it is difficult, sometimes impossible, to turn the reaction into a negative one. In cases of latent malaria in which I will show later that there are also other definite clinical symptoms, the melanoflocculation reaction seems the sole residue of the infection. The great value of this reaction lies in its objective proof of the existence of latent malaria in spite of the unimpressiveness of the clinical picture.

One of the chief questions which the research work of the last thirty years has tried to answer is whether chronic malaria can be diagnosed without the appearance of plasmodia, i.e., a positive blood smear. The answer is crystal clear: the disease can be diagnosed in the absence of a positive blood smear. The melanoflocculation reaction must replace the blood smear in the diagnosis of latent malaria. It will probably play an analogous role for latent malaria to that of the Wassermann test for latent syphilis.

Besides this test, there are definite clinical symptoms which enable the examiner to make an exact diagnosis of latent malaria which can eventually be confirmed by the Henry test. I have used this purely clinical method for more than twenty-five years and since I became acquainted with the new test I have been able to confirm the results in more than three hundred cases.

Fonde's paper confirmed the conclusions I drew from the clinical type of examination which I worked out and have used over a period of many years. A description of this method follows:

During World War I it was my good fortune to observe many thousands of malaria, typhus and, later on, scarlet fever cases. The acute cases of these three infections all showed the same typical behavior (malaria, of course, only during an attack), that from the start when the temperature had reached its height, the liver and spleen were found enlarged to the maximum, the liver being usually twice its normal size. This enlargement must take place, therefore, during the period of incubation, a fact which could be easily followed and confirmed. From this observation, the following conclusions were drawn: In scarlet fever, typhus and each fresh malaria attack or relapse the clinical picture is analogous and presumably is due to the presence of a microorganism or virus, the nature of which is still unknown. This microorganism settles in the liver and spleen and develops with the simultaneous enlargement of the organs of the host[1]. At the moment of complete development of the attack when these organs have attained their maximum size, the microorganisms cannot be arrested any longer or held within the confines of these organs, and then the barriers break, so to speak, releasing them into the blood stream. The appearance of the exanthema and the outbreak of the fever are the outward manifestations of the malaria parasites in the blood stream.

The malaria parasites cannot be entirely destroyed by quinine as in the case of scarlet fever and typhus. Yet the liver and spleen will be reduced in size temporarily by this drug; that is to say, as long as we have to deal with fresh cases in which no sclerotic processes have taken place. In this category belong thousands of people with latent malaria who are

[1]See author's paper on "Problems of Scarlet Fever", **Medical Record**, Feb. 17 and March 3, 1937.

not living in malarial regions, and who have had relatively few attacks or are not even aware that they have malaria[2]. Their spleens and livers are tender and their enlargement cannot be ascertained by touch, but it can easily be recognized by the "Schwellenwert" percussion method devised by Goldscheider in connection with a little device of the author. The patient is asked to take a deep breath and "blow up" the abdomen; i.e., expand the abdomen so that the liver and spleen are tightly pressed toward the abdominal wall and can be outlined by their absolute dullness. Without this method only the lower part of the liver would be adjacent to the abdominal wall, while the upper part would be covered by the lungs which become heavier through increasingly heavier lung tissue as one proceeds toward the head, and would have to be determined by the usual inaccurate method of relative dullness. The author uses a pleximeter made of violin wood, which with the lightest percussion allows the determination of the outlines of the liver and spleen with the greatest accuracy.

In this method the senses involved are primarily the tactile and to a lesser extent, the auditory. Incidentally, the pleximeter, gripped as it should be, rides between the fingers which hold it and the percussion blow does not blunt the sense of touch of the fingers as the indirect finger-finger percussion does, nor are the fingers holding the pleximeter dulled by the pressure usually necessary in holding the common type of offset pleximeter.

The only way to prove the correctness of the findings outlined above was by experimental infections of monkeys with malaria, admirably carried out by Taliaferro and Cannon with the following results: During the primary infection of various species of monkeys there developed a concentration and phagocytosis of parasites in the spleen and liver (and bone marrow), similar to that of man. No uninfected monkeys showed the general swelling and involvement of Kupffer cells so characteristic of intense malarial stimulation. Naturally, the number of phagocytized parasites or parasitized red cells will be in proportion to the number of organisms invading the host. This description of the incipience of the disease in the monkey is an exact parallel of the above mentioned clinical picture of enlarged liver and spleen of malaria-infected man during the incubation stage. Because of the same behavior of liver and spleen in cases of scarlet fever and typhus during their incubation stages, I reasoned that all three infections should respond in a similar manner to quinine in checking the infection. Actual tests confirmed my hypothesis. I, therefore, concluded that all three infections were due to a microorganism belonging to the same group. If the swelling of liver and spleen in the incipient stage of the infection leads to a valid diagnosis of malaria, as proved under controlled experimental conditions by Taliaferro and Cannon, it would seem a safe conclusion that repeated observations of similar symptoms in thousands of cases, by the same observer under application of the same method, points to the same diagnosis at another stage, that is to say, at the latent stage of malaria.

I have emphasized here the relationship between malaria, scarlet fever and typhus. Their similarity is further revealed in another respect: the malarial erythema or better, exanthema. Among other authors, Plehn observed it and Castellani mentions it (cit. p. 2266) "Diffuse erythema scarlatiniforme and erythema morbilliforme may be seen in some malaria patients. They may occasionally be caused by quinine but in most cases are of malarial origin". It seems that I was the only one who studied this exanthema by the method of microscopic examination of the capillaries. The fact that the exanthema generally becomes visible only after a certain lapse of time on exposure of the body to the air, accounts for the fact that it has been mentioned so seldom in the literature on the subject. Also, it is very difficult to recognize in colored people (Castellani). As a diagnostic symptom the exanthema is important. If the patient is uncovered for one to three minutes, the exanthema develops gradually, more and more distinctly, until its borders build a clear contrast to the normal skin and can be properly photographed. It is interesting to note that it is not unusual to observe the same behavior in the case of the scarlet fever rash.

Capillary microscopy reveals a characteristic picture of more or less numerous capillary loops in the field of vision. During a malaria attack, immediately after a shaking chill (temperature 103.8° F.) I was able to observe the capillaries. The enlarged capillaries showed distinct blood circulation. This picture can be observed in any case of latent malaria. It is evident that the mosquitos can pick up plasmodia only when biting such a spot, providing them with fresh flowing blood. In a healthy skin without capillaries they never can reach flowing blood and never have the chance to pick up and transfer plasmodia.

To sum up the results of these studies: I conclude that latent malaria acknowledged by many thousands of clinical observations can be diagnosed by percussion of the liver and spleen and by virtue of the existence of a typical exanthema. This diagnosis can be corroborated by the Henry test.

As mentioned before, Pebritz speaking of the twenty to thirty thousand cases of chronic malaria in Illinois (1923) pointed out that the winters there are of sufficient severity to kill practically all infected mosquitoes; hence man is the chief reservoir for carrying over the infection from one season to the next. I might add that especially the chronic malaria exanthema with its easily reachable capillaries affords the new and uninfected generation of anopheles, of the new season, the chance to become infected and become carriers of plasmodia, reinfecting or newly infecting a still larger part of the population.

Therefore, Pebritz charges the physician with the responsibility of stopping the spread of malaria,

[2]Pebritz estimates that in the state of Illinois there are between twenty-five and thirty thousand people with the type of chronic malaria I have in mind, but surely this figure is too conservative.

especially the most important chronic or latent form. He defines chronic malaria as a persistent infection with malarial parasites which causes various symptoms at different periods. Latent malaria he defines as the symptomatic chronic infection.

It is his belief that most of the socalled latent cases are chronic malaria during an apparently symptomless period and he declares that it is safe to say that but a few of the chronic cases are recognized or treated. Yet the unostentatious chronic stage is the preponderant cause of ill health causing social and economic losses. This was written in 1923.

Fonde, with an extraordinary basis of experience, took up the task of drawing general attention to this problem of chronic malaria. It is noteworthy that he found support in the *Yearbook of General Medicine,* 1940, which published an extensive report of his findings by Dr. Dick. Thus, chronic malaria is, so to speak, now officially recognized by the American medical authorities. It is a matter of common knowledge that it was not unusual for reputable physicians to doubt the evidence of malaria in the nontropical regions of the United States. They, therefore, failed to recognize that such cases as, for example, neuralgia, may be due to chronic malaria which latter is not easily cured by ordinary means, but very easily by a specific treatment.

Fonde has undoubtedly recognized the problem of malaria in its entirety. He realized that the eradication of latent malaria is the alpha and omega of the malaria problem. Incidently, the same is true of latent scarlet fever and typhus. The spreading of these infections is also chiefly due to the large number of latent cases. Fonde suggests a changed formula for the use of quinine and its derivative atabrine, in chronic cases. It seems that the only objection to this method is that it is too difficult and long drawn out to be administered to seemingly healthy individuals.

I have developed a much easier method which may prove to be a cure for latent malaria. I have tried to show above that there are two methods of diagnosing latent malaria: the Henry test and the clinical method: the size of liver and spleen plus the exanthema. When the Henry test changes from positive to negative then it can be assumed that all the malarial parasites have been destroyed and that the patient has been cured of latent malaria.

It goes without saying that such proofs can be obtained only when the state or even a larger community takes the whole problem into their own hands because, as will be explained below, the treatment consists not of injections or vaccination but of the administration by mouth of powdered enzymes (zulyzme) prepared in a special way which renders them more easily absorbed than those contained in ordinary fruits and vegetables. They are stabilized by certain harmless salts and are tasteless and odorless. There is theoretically no obstacle to conducting such a test on a larger scale, for example in Illinois, where Pebritz's research work has already paved the way for such an undertaking.

As for the effect of this treatment, ten to fourteen days after its start, the liver and spleen are found to have shrunk to their normal size, while the positive Henry test changes to negative sometime later. The exanthema, once established never disappears completely.

As for the question of how this enzymatic treatment brings about the suppression of latent malaria, that can be shown conclusively only by experimentation, such as in continuation of the above mentioned experiments on monkeys. Hence I must confine myself to offering a hypothesis. The malarial microorganism belongs to the vegetable kingdom. It is vulnerable to oxygen. It seems possible that oxygen released by oxidases, fortifying the vitality of the human cells, at the same time destroys the malarial virus.

With regard to individual cases, the problem of curing a patient in a nonmalarial region is much easier. We have only to destroy the malarial microorganism within the individual carriers, by the above mentioned enzymes and treat the organs damaged by malaria. As mentioned before, there are many systemic conditions caused by malaria (I. C. Fonde). The most common, at least in our climate, seems to be hay-fever, asthma and neuralgias. Fonde has already pointed out the frequently observed coincidence of chronic malaria with hay-fever and asthma in children and adolescents. I took the next step connecting etiologically both respiratory diseases with chronic malaria. In all my cases of hay-fever, including socalled rose-fever, I discovered all the symptoms characteristic of malaria. The previously mentioned specific treatment, together with local treatment of the nasal mucous membranes by iontophoresis, always proved to be helpful. Out of more than one hundred cases only twenty-five percent of the patients submitted to regular treatment. Many with whom hay-fever was only an incidental finding, prejudiced or discouraged by former experiences, did not even try the new suggestion. Many experienced a quick relief after which they discontinued the treatment. The remaining fourth of the patients, however, were definitely relieved, the liver and spleen became normal in size and the Henry test became negative.

The same good results were obtained in neuralgia (which in some cases had been treated before with no visible result). It is not my intention to deal in large numbers. I wish to draw attention to this easy method in order to demonstrate that it is possible to help relieve some of these poor unfortunates. On the other hand, it seems desirable to show that most of the allergic diseases are sequelae of infection such as chronic malaria. The increased amount of histamine, which has lately been referred to in medical literature, is not the cause of asthma or hay-fever, but a concurrent or parallel symptom to hay-fever. If you look for the exanthema you will notice that there is a marked resemblance to a histamine erythema. It develops coincidentally, with the first malaria attack, so it cannot be its cause but its consequence.

Summary

1. The problem of malaria lies in its chronic or latent form.

2. For a quick diagnosis of chronic malaria the determination of the size of the liver and spleen is paramount combined with the observation of the exanthema (by capillary microscopy). Henry's serological test corroborates the diagnosis.

3. Chronic malaria hitherto resistant to complete cure, can be definitely attacked by enzymic oxygenation.

4. It is paramount that a test of this method be undertaken by a state or at least a large community. In this manner it could be demonstrated that this method is inexpensive and effective. It seems to have been proved that in individual cases chronic malaria and its sequelae, hay-fever, neuralgias, etc., can be cured.

5. The new method of experimental epidemiology of Missiroli and Marino has demonstrated that when the microorganism of malaria are destroyed even during a limited period of time in a restricted area so that no mosquitoes are able to pick up the malaria parasites from a human being, an epidemic can be stopped.

If under state supervision the entire population in a large malarial area can actually be cured of malaria, there looms the possibility of ridding the entire country of the scourge.

Malaria and Epilepsy

Since the completion of this paper I came across the following quotation from an article entitled "Relationship between Malaria and Epilepsy" in the *Yearbook of General Medicine*, 1939, pp. 30.

"Central nervous system disturbances caused by malaria are said by Durck to be caused by the formation of numerous nodules in the nerve tissue. These nodules result in irregular interruptions of the neurons, and neuropathological symptom complexes follow, variously recorded as polyneuritis, spastic spinal paralysis, herpes zoster, hemiplegia, apoplexy, paresis, psychic disturbances, bulbar paralysis, and tetanic and epileptiform attacks. Seyforth's statistics reveal that fifty-five percent of all fatal malaria cases end in a coma preceded by numerous nervous manifestations".

These findings account for the phenomena I observed that in certain cases, not in sufficient numbers to warrant the formulation of a general rule, mental depression, schizophrenia, different forms of neuralgias, etc., are cured by the administration of oxidases as described above.

(*To Be Continued*)

LITHOGENESIS AND HYPOVITAMINOSIS

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In earlier times, prior to one hundred years ago, lithiasis, particularly of renal origin, was much more prevalent than today. It was in fact the major cause of surgical intervention at that time. As evidence of the former medical prominence of this subject there are some eighty words with the prefix "lith" in medical dictionaries. During the last century, however, there has been in most countries a general decline in the incidence of urinary calculi, which has been noted clinically by some of our older urologists even in the span of their own experience. In America, where calculous disease has always been less prevalent than in Europe, the decline in incidence has been particularly noticeable.

The incidence of lithiasis is still known to be unusually high in certain countries, notably India and Egypt, which would seem to suggest a nutritional etiology. Additional "stone areas" have been reported in southern China (Kwangsi Province), Indo-China, Siam, Palestine, Dalmatia, Mesopotamia, and the valley of the Volga in Russia. Clinicians in these areas have attributed the high "stone" incidence to impoverished diets. Kwangsi Province is the poorest part of China. The diet there consists mostly of boiled rice (polished); whereas fruit, vegetables, milk and meat are only occasionally included. It is significant that most of these areas are districts where a form of civilization has existed since remotest historical time, and where antiquated sanitation, faulty personal hygiene and poor nutrition are still the rule. Recently, in a nutritional survey of Newfoundland (1), the prevalence of renal stone is referred to as possibly related to faulty diet. During the previous century urinary lithiasis was a disease of infants and young children mostly; whereas now the generally lessened incidence involves mostly the older age groups. A possible explanation for these features of incidence will be offered later.

Joly (2) states "I believe the hypothesis that stone is a deficiency disease is the most plausible and probable that has yet been advanced. It explains not only all the principal features of the condition today, but also the changes in incidence during the past years. I believe that vitamin starvation acts primarily on the renal epithelium and through it on the colloidal mechanism of the urine; also that once this mechanism is deranged, stone formation must follow as a direct result of the laws of physical chemistry."

Aside from clinical observations, experimental work on laboratory animals suggests a relationship between urinary calculi and dietary deficiency. Osborne and Mendel (3), in 1917, found that urinary calculi, both vesical and renal, could be produced in rats on a diet deficient in vitamin A. (It should be recognized, however, that vitamin A was the principal vitamin known at that time.) In 1926, Fujimaki (4) found that rats on a vitamin A deficient diet developed phosphate stones in the urin-

ary tract and cholesterol stones in the bile ducts. In 1931, McCarrison (5) demonstrated the keratinizing effect of vitamin A deficiency on the epithelium of the urinary tract. He believed that desquamation of this keratinized epithelium might provide the nuclei for calculi. He also found that if vitamin C were also removed from the diet renal calculi were more likely to be produced. Hughes (6), however, in 1928, did not find calculi in hogs reared on a mixed diet lacking in vitamin A, although other symptoms of vitamin A deficiency were present. Furthermore, Abderhalden (7), in 1931, reports an unusually large number of urinary calculi in rats fed on milk and rice, a diet apparently not lacking in vitamin A. It has also been noted that calculi are found frequently in the urinary tracts of cattle and sheep feeding on alfalfa, grass and other green pasturage, which obviously would contain an ample supply of vitamin A.

Accordingly it would appear that the literature regarding experimental production of urinary calculi is still in a state of flux, and lacking conclusive evidence regarding the dietary factors responsible for the disease in man.

The immediate predisposing cause of urinary calculi is undoubtedly the presence of crystalline material in the urine. This usually consists of uric acid, calcium oxylate, carbonate and phosphate, the latter generally predominating. The crystalline concretions are laid down in an albuminous matrix around a nucleus of organic material such as blood clots or epithelial shreds. Once the nucleus is formed it is surrounded by mucopurulent albuminous material, which is stirred up by its presence; and thus conditions favorable to the deposition of new layers of stone are initiated.

Since the time of Pliny even to the present day, search has been made for something, which, taken orally, might be capable of dissolving urinary calculi or preventing their formation. Pliny's remedy was ashes of snail shells. The most serious efforts of modern times in this direction were those of Roberts (8) and Garrod (9) of England, the former using long courses of potassium citrate or bicarbonate, and the latter employing the same salts of lithium in smaller doses. Keyes (10) reports favorable litholytic effects from the habitual use of apple cider.

In my own clinical experience I believe I have discovered the secret of the beneficient effect of apple cider in the dissolution and prevention of renal calculi—its content of vitamin C (ascorbic acid). In many of my cases I have observed that a cloudy urine, heavy with phosphates and epithelium, is generally associated with a low vitamin C status, as determined by titration with dichlorphenal-indophenol (Hoffmann-La Roche); and that as soon as corrective administration of the vitamin effects a normal ascorbic acid level the crystalline and organic sediment disappears like magic from the urine. I have found that this change can usually be brought about in a matter of hours by large doses of the vitamin—500 to 2000 mg.—oral or parenteral. Subsequently maintenance doses of 100 to 300 mg., daily, are usually sufficient to keep the urine free from these deposits. It would thus appear that deficiency of vitamin C, which is the predominating dietary defect in the various "stone areas", may provide the determining factor in urinary lithogenesis.

The exact nature of the biochemical mechanism involved in this rapid physiochemical transformation of the renal excretion is not yet determined. It is most likely to be caused by metabolic changes effected catalytically by the vitamin, since it is inconceivable that such small amounts of ascorbic acid eliminated in the urine, usually about one mg. per ounce, could effect dissolution of the crystalline sediment by any resultant change in the pH status of the urine. To check this possibility vitamin C was added *in vitro* to phosphatic urine in quantity much larger than the amount found normally present under optimal intake, but with no apparent dissolution of the calcareous precipitate.

As further evidence that this associated biochemical change is metabolic or systemic and not merely local in the urinary tract I have made the further observation that calcareous incrustation at the inner canthus of the eye and on the cornea, and salivary or dental calculi (deposit of tartar on the teeth or dentures) are also associated with C hypovitaminosis. The ocular calcareous deposits I find may be cleared away in a few days by correction of vitamin C status, and I find also that dental calculus, which lays the foundation for so much dental havoc, can be quickly suppressed and prevented by an adequate intake of vitamin C.

My attention was first called to the possibility of this correlation by frequent spontaneous reports from my patients to the effect that since adopting the regimen which I frequently prescribe to correct basic nutritional deficiency they have noticed that their teeth or dentures feel much smoother to their tongue and that their dentists had noted a marked reduction in dental tartar. Other patients had reported an unusual clarity of the urine following adoption of the regimen. In another instance a nurse in charge of a rest home where one of my patients was in residence noted an unusual freedom from calcareous deposits on the urinary utensils used by this patient, in contrast with the heavy deposits on the urinary vessels used by the other inmates. The dietary regimen referred to above included all the vitamin B complex factors as well as a liberal intake of vitamin C. By trial and error and process of elimination I finally found that the vitamin C component of the regimen was the major factor in bringing about not only freedom from dental deposits of salivary calculus, but complete and prompt elimination of precipitates of calcium phosphates from the urine. I found also that continued use of a liberal vitamin C intake resulted in rapid clearing of epithelium and other organic detritus from the urine, and in the mouth a marked reduction in gingival erosions and epithelial desquamation. I have now observed these effects in so

many cases that the correlation between C hypovitaminosis and lithogenesis in general seems indubitable. Desquamated epithelium and amorphous or crystalline phosphates are so frequently observed in the urine of apparently healthy subjects, and dental deposits of salivary calculi are so widespread that we have been inclined to regard these conditions as normal. And this opens up the wider concept that calculi found in many other parts of the body, as in the biliary tract (gallstones), the pancreas, the tonsillar crypts, the appendix vermiformis, the conjunctiva (in the ducts of the Meibomian glands), the nasal tract (rhinoliths), the mammary glands, the uterus, the ovaries, the testicles, the prostate gland, the blood (hemoliths), the gastrointestinal tract (gastroliths and enteroliths), and even the calcareous deposits in arteriosclerosis and in arthritic and gouty tophi, may all have a similar nutritional deficiency background. In other words, we may now have the basic etiological solution of the so-called "diathetic lithiasis", which was formerly thought to be constitutionally hereditary.

There are two ways in which C hypovitaminosis may predispose to lithogenesis aside from the metabolic disturbance as manifested in the increased deposition of calcium phosphate in the various body fluids. In the first place a lack of vitamin C definitely tends to fragility of the perivascular, submucous and subcutaneous connective tissues as a result of the liquefaction of the collagenous intellecular cement substance. This condition is manifested clinically by easy bruising of the tissues generally, due to rupture of the small blood vessels. In the mouth the gums become tender and subject to hemorrhagic abrasions in brushing the teeth or by friction of dentures. Desquamation of the buccal mucosa becomes accentuated. This material, augmented by food remnants, forms a necrotic detritus, which, when deposited in the interdental spaces provides an excellent nidus for ubiquitous microorganisms, pyogenic and mycelial. This conglomerate supplies the matrix or nucleus for the deposition of calcareous material (tartar), which, in turn, sets up inflammatory changes in the gingival tissues, these having lost their natural resistance to infectious invasion by reason of the C hypovitaminotic breakdown in the connective supporting tissue. Thus a vicious circle is established, accentuating calculus formation and gingivitis, and leading to pyorrhea and serious destructive periodontal lesions.

In the genitourinary tract the same fragility of tissues, consequent to C hypovitaminosis, is manifested by increased desquamation of epithelium and vulnerability of the mucosa. The resulting detritus provides the nuclei for lithogenesis, renal and vesical. The superimposed mechanical irritation by the calculi predisposes to infectious invasion by otherwise innocuous organisms such as the ubiquitous staphylococcus, streptococcus and colon bacilli. The resultant inflammatory exudate and the swing of the urinary pH to the alkaline side favor further lithogenesis, and thus again the vicious circle is brought into action.

In further confirmation of the hypothesis of C hypovitaminosis as the basic etiological factor in lithogenesis the following clinical data seem pertinent: Agnew (11), reporting on the dental condition of the Tibetans and people of the west China border, states that heavy deposits of salivary calculi, sometimes sufficient to mask the dental formation, are very common. He further states that the diet of these people is very deficient in vitamin C, consisting mostly of butter, tea and barley flour or rice. Very scant supplies of fresh fruits are available, and then only seasonally. Arkle (12, 13), reporting on dental conditions of the Indians of James Bay and Labrador, in northeastern Canada, states that few mouths were without calculus formation. Even the very young children were affected. The diet of these tribes consisted mostly of white flour biscuits, oatmeal, lard, fish, wild game, tea and sugar. Their supply of fresh fruits and vegetables was limited to seasonal berries, sprouting buds and moss, the latter being obtained from the stomachs of caribou and other wild animals. Such a diet would be obviously deficient in vitamin C. MacGregor and Simpson (14) have observed that children with celiac disease, on special diet of high protein and low fat content with little or no fresh fruit or vegetables, showed rapid dental calculus formation. The diet in these cases was predominently deficient in vitamin C. Adamson et al. (1), in a recent survey of nutritional conditions in Newfoundland, report the concurrent widespread prevalence of urinary calculi and periodontal disease; while Goodwin (15) reports heavy deposits of dental calculi as a prominent feature of periodontal disease in Newfoundland. According to this survey, deficiency of vitamin C is the major nutritional defect in Newfoundland.

H. E. James (16) reports an incidence of almost one hundred percent of cholecystitis and a correspondingly high incidence of cholelithiasis among the Tibetans and Szechwanese. The diet of these peoples consists mostly of butter, tea, barley flour and rice with little or no fresh fruits or vegetables, —obviously very deficient in vitamin C. The high fat content of this diet, the butter being used in large quantity, probably contributes to the predominence of biliary calculi; while the increased acidity of the urine, due to increased absorption of fatty acids, may prevent an otherwise high incidence of urinary calculi. As stated by Agnew, these people are subject to heavy formation of dental calculus. In South China, where rice is the staple diet and butter less in use, the incidence of both urinary and dental calculus is very high. Shaw et al (17), in a recent report on "acute and chronic ascorbic acid deficiency in the Rhesus monkey", note the early appearance of a "white sticky residue" on the teeth, which progressed to heavy deposits of dental tartar.

On the basis of the hypothesis of vitamin C deficiency as the major etiological factor in lithogenesis, the marked reduction in the incidence of urinary calculi in the last century, and the shift in age incidence from infancy and childhood to the older age

groups, could be explained by the more widespread distribution and increased supply of citrus and other fruits, and by the advances in modern pediatric nutrition whereby citrus and other fruit juices rich in vitamin C are included in the diet of early infancy. This dietary revolution has not been adopted so freely by the older age groups.

Summary

Clinical observations and laboratory experimentation by the author on the effect of administration of vitamin C in altering the physiochemical properties of the urine and other body fluids, principally in eliminating deposition of phosphates, has led to the hypothesis of C hypovitaminosis as the basic etiological factor in lithogenesis in general—urinary, salivary, biliary, etc. A correlated study of the literature regarding the history of calculous disease and the changed trends in nutrition, particularly in the matter of vitamin C intake, lends support to this hypothesis.

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16 GOTHIC AVENUE.

DISTURBED PERSONALITY DUE TO SEXUAL NEURASTHENIA

Its Management and Treatment

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Personality, the dominating feature in human behavior, is frequently influenced by the sex life of the individual. Impotency in males between twenty-five and forty years of age is as common as frigidity in young females and may have equally significant domestic, and even social implications. The most common personality disturbances are hypersensitivity, inability to adjust oneself to domestic and social relationships, and difficulty in starting life over again after financial reverses. The subject invites the earnest consideration of the clinician who, by wise counsel, and a carefully planned therapeutic regime, can frequently sexually rehabilitate many of these men.

The present study is based on thirty-seven cases of disturbed personality due to sexual neurasthenia, the youngest patient being twenty-seven years old, and the oldest forty. Etiological considerations proved to be one of the hardest phases of the investigation although in most instances hypogonadism and sex worry were conspicuous elements.

The etiology of sexual neurasthenia is usually obscured by psychosomatic factors, history of disease, and endocrinological imbalance in the form of hypogonadism. Thus, in World War I many discharged soldiers, without physical disabilities but with psychic complaints, were classified as cases of fright neurosis or neurocirculatory asthenia. During World War II research on psychosomatic medicine threw interesting light on various phases of neuroses and emphasized the relation of conflict, depression, regression and fear to sexual neurasthenia.

Many young men who were maladjusted in civil life developed into efficient and capable soldiers only to manifest inferiority complexes and neuroses after they had been discharged from service. The study of personality disorders should rest on the history of the patient and on a complete physical examination rather than on socalled anxiety states or anxiety neuroses.

In seeking to determine the etiology of sexual neurasthenia in the young male, the possibility of spinal cord disease, venereal disease, glandular dysfunction and neuroses should be considered. Other factors to consider include frigidity on the part of the patient's wife, and worry about business and financial affairs. Many such cases have come to our attention. Representative is the case of E.W., aged thirty-six, married for ten years, and the father of two children. At the time of the first interview the patient reported that he had lost all

sex desire during the past eight months. Recently he had experienced difficulties with his employer which resulted in his discharge. His financial affairs passed beyond control. Sexual neurasthenia, which developed at this time, appeared to be definitely related to his business worries. On obtaining another job the patient's sexual disability continued but further psychotherapy and administration of a gland extract, over a period of twelve weeks, restored him to a normal condition.

Careful study of a patient's history often discloses that disturbed personality is rooted in sexual psychosis, especially in the case of young men who have romantic fancies and yet remain sexually frigid. Most young men are entirely ignorant of sex life, and on reaching puberty they become shy. Attachment to the opposite sex results in a mental conflict. Sexual neurasthenia may result. Freud stressed the significance of nervous manifestations in relation to impotency in young adults.

Marital readjustments are etiological factors in many instances. Premature ejaculation, a common cause of impotency, is often the result of lack of orgasm on the part of the female partner.

Hypogonadism is another underlying cause of sexual neurasthenia, and in many cases it is responsible for a feeling of frustration, depression, and melancholia, especially in young men. However, in our experience stimulation of the gonads with pituitary medication is an unsatisfactory therapeutic approach, and the administration of testosterone may unduly stimulate sexual desire.

The management of sexual neurasthenia in the male is rather difficult. The patient should be given to understand that impotency is not necessarily the result of disease. The physician should strive to gain the complete confidence of the patient and then attempt to readjust his emotional status with psychotherapy and indicated drugs.

Many clinicians subscribe to the belief that testosterone does not substitute for all the testicular effects. Indeed, *The Lancet* has expressed the belief that perhaps testosterone is not the only testicular hormone but only part of a necessary chemical complex.

The purpose of the present study was to investigate the use of psychotherapy and an active extract of the prostate and testes in the treatment of disturbed personality due to sexual neurasthenia. A purified extract from .62 Gm. (25 gr.) fresh testicle and from 0.324 Gm. (5 gr.) fresh prostate is contained in each tablet of the therapeutic agent.

Case Histories of Seven Representative Types of Patients

CASE I.—A.G., aged thirty-one, married for seven years with three children. The chief complaint was impotency. The patient explained that he was able to have intercourse only once a week, and sometimes only once in two weeks. His wife accused him of infidelity. He felt frustrated and despondent. Long hours of work left him very tired at night, moody and restless. He was in the habit of retiring early. The physical and genitourinary examinations were both negative. A change of habits, psychotherapy and the administration of testacoids, three tablets three times a day over a period of eight weeks, restored him to a normal condition.

CASE II.—A.M., aged thirty-three, married for five years, with two children. There was a history of gonorrhea eight years before, but it was apparently cured. He had been impotent for the past year. He had the desire, but ejaculated before entrance. He became nervous and despondent. His physical examination was negative, but the genitourinary examination revealed prostatitis. There were thirty pus cells to the field in the prostatic smear. The treatment consisted of prostatic massage and the administration of testacoids, three tablets three times a day over a period of ten weeks. The results were good.

CASE III.—M.B., aged twenty-seven, single. There was a history of masturbation since the age of fifteen. He was despondent because of his impotency. The physical examination was negative, but the genitourinary examination revealed a congested verumontanum. The treatment consisted of the application of silver nitrate to the vera, and administration of testacoids, three tablets three times a day over a period of six weeks. The results were favorable.

CASE IV.—P.J., aged thirty-six, married for ten years, with one child. There was a history of impotency for a period of over seven months. Four years before the examination, a right epididymitis developed following an attack of gonorrhea. The physical examination was negative, but the genitourinary examination revealed an urethal stricture and prostatitis. The treatment consisted of dilatation with sounds, prostatic massage and the administration of testacoids, six tablets three times a day over a period of twelve weeks. The results were very good.

CASE V.—L.R., aged thirty-one, single. He had been discharged from the Army six months before the examination, and had been overseas for two years. He was very nervous since being discharged and had noticed a loss of libido for the past year. The physical examination revealed an extremely nervous condition; the genitourinary examination was negative. The treatment consisted of psychotherapy and the administration of testacoids, four tablets three times a day over a period of eight weeks. The results were uncertain.

CASE VI.—L.P., aged thirty-seven, single. The patient complained of sexual neurasthenia. His personal history revealed gonorrhea and syphilis at the age of nineteen, but the patient claimed that a subsequent spinal test was negative. The present sexual neurasthenia appeared to be rooted in fear of any further infection and for this reason he had never married. The physical examination was negative. The treatment consisted of psychotherapy and the administration of testacoids, four tablets three times a day. The results were poor.

CASE VII.—J.J., aged thirty-four, married for five years with one child. The patient complained

that during the past two years he had experienced inhibited libido which was followed by sexual neurasthenia. The physical examination was essentially negative. The treatment consisted of psychotherapy and the administration of testacoids, twelve tablets daily. The results were very good.

Summary

None of the thirty-seven patients in the group had pathological disorders, but all complained of sexual neurasthenia and exhibited evidence of disturbed personalities. A complete physical and urological examination was conducted on each patient.. Psychic disturbances and hypogonadism were in evidence in all cases. Treatment consisted of psychotherapy and the administration of the glandular extract. Sedatives and stimulants were not employed..

Most patients were materially benefitted by the balanced regime of psychotherapy and glandular therapy. Psychically their problems were corrected, and physically their condition improved by supplementation of their gonadal secretions with the extract of the testes and prostate. We are convinced that the glandular extract controlled the aggravated physical symptoms experienced in these cases, i.e. depression and tiredness. In the authors' opinion the extract is helpful in impotency and cases of lack of libido, but it does not overstimulate sexual desire.

The study lends support to the belief that psychotherapy and administration of an extract of the testes and prostate deserve consideration in the treatment of sexual neurasthenia.

2008 and 2115 Pine Street

The extract of testes and prostate, marketed by Reed & Carnrick under the name of testacoids, was kindly furnished by Dr. Robert N. Montfort, medical director of laboratories.

ROENTGEN THERAPY OF THE ARTHRITIDES AND LIGAMENTOUS, TENDINOUS AND BURSAL INFLAMMATIONS

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Of all the ills of man that have baffled medical science for centuries and still fails to respond to any universal therapeutic treatment, the most important is arthritis. For thousands of years, victims of this crippling disease have filled water-cure places which seemed to have afforded the only effective relief available to most of these sufferers. Medicaments of all sorts have been tried for this disease but as yet no drug or chemotherapeutic agent has proved more than temporarily effective.

Historical

Goldhamer (1), in tracing the history of arthritis, informs us that the skeletons of Egyptian mummies estimated to have lived thousands of years ago, demonstrate the same arthritic changes that we observe today. He adds that statistical publications show that almost seven million or about five percent of the American population have arthritis. A great number are unable to work and cause an enormous burden to the public welfare. Millions of dollars must be spent yearly for their care. Chronic arthritis has more victims than tuberculosis or diabetes. Although not fatal, it usually disturbs and disables the patient. The same author adds that its widespread incidence, its chronicity and its lack of any real remedy emphasize the importance of giving serious attention to x ray therapy. A government publication (2) makes the following statement: "Rheumatism ranks first in prevalence, second in producing chronic disability, second in invalidity (permanent disability) and fourteenth in causing death". I agree with Goldhamer that the various undesirable factors from arthritis warrant us in giving serious attention to x ray therapy.

The treatment of chronic arthritis by x rays was first recommended by Sokolow in 1897, one year after x ray was discovered and followed by a similar recommendation by Stenbeck (3) in 1938. The earliest American writers advocating its use were Williams (4) and later Anders, Dorland and Pfahler (5). This type of treatment was then neglected in this country until 1933 but still used in Europe. Garland (6) found that almost all his acute cases had a "rapid and indeed almost theatrical relief of pain". Herman and Johnson (7) report that twenty-five percent of cases of chronic arthritis were functionally cured and forty percent greatly improved. Backe (8), in a series of 555 cases reports 88.3 percent benefitted and 38.4 percent actually cured. Weinberg (9) claims "a large majority of the patients were completely relieved of pain and remained free of symptoms". His series of 160 cases were followed up for as long as six years. He further states: "The response of some painful joints to roentgen irradiation is frequently so dramatic that it surprises both the patient and the therapist". Smyth, et al (10) obtained promising results and later Smyth, Freyberg and Lampe (11) report that x ray is the best method of controlling rheumatoid arthritis of the spine. Rees and Murphy (12) state that spondylitis adolescens is a common infectious disease in which the sedimentation rate is increased. It responds to x ray therapy and otherwise becomes a disabling disease. .

Tenbergen et al (13) finds x ray therapy helpful in sixteen out of a series of twenty-seven cases of spondylarthritis ankyloietica with a decrease in the sedimentation rate of 18. Baker (14) reports good results in rhizomelic spondylitis treated by x ray, particularly in early cases although surprisingly good improvement was noted even in marked deformity. He states that before the introduction of x ray therapy, satisfactory correction of Marie-Strumpell's

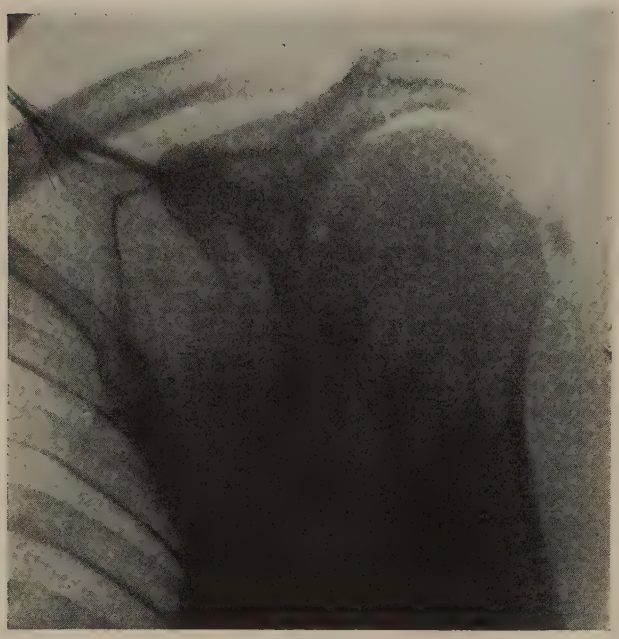

FIG. 1.—Before x ray therapy April 10, 1946 Subdeltoid bursal deposits; calcifications at tendon insertions of supraspinatus muscle; pain, swelling, and limited mobility present.

arthritis required a prolonged hospitalization while with roentgen therapy plus orthopedic care, only a short period of time is required. Tillis states: "The sufferer from Marie-Strumpell's disease or ankylosing spondylitis can look more optimistically on life since the advent of massive doses of x ray therapy."

Oppenheimer (16) gives a detailed description of the pathology of Marie-Strumpell's disease and states that a complete cure with disappearance of the lesions roentgenologically can be achieved by roentgen therapy in early and incipient cases. In the more advanced stages, the lesion is irreparable but x ray helps to control pain and produces a subjective improvement of vertebral mobility.

Recently, Freyberg demonstrated by moving pictures definite clinical relief following x ray therapy in cases of Marie-Strumpell's disease, although no definite anatomical alterations were noted in the roentgenographs after treatment of conditions existing before treatment was instituted, yet the marked relief from symptoms and dysfunction was spectacular. Therefore, Freyberg strongly advocates this method of therapy in all cases wherever possible, although like other therapists who have experimented in clinical radiation, he admits that the reason for favorable response in these cases is not yet completely solved.

For x ray treatment of subdeltoid bursitis, the first successful report was by Lattman (17) in 1937 (Fig. 1). Since then, there have been numerous favorable reports. Among these are Brewer and Zinc (18), Harris (19), Baird (20), Klein and Klemes (21), Chapman (22), Solomon and Mortar (23), Young (24), Behrens (25) and many others. Brewer and Zinc (18) claim that by this method of treatment, the economic disability is reduced to less than forty-eight hours. Young (24) reports a case of calcified bursitis given two x ray treatments three days apart with gradual complete recovery and diminution of the calcareous deposit. He maintains that roentgen therapy is a safe and economic procedure and the experience at the Mayo Clinic indicates that the presence or absence of calcareous deposits has no effect upon the end result.

Clinical Aspects and Pathology of Chronic Arthritis

In the past few years, the medical interest upon chronic arthritis has increased enormously. Hundreds of publications concerning this disease attest the importance attached to its study. The foundation of the Committee for the Control of Rheumatism is an indication of the efforts made in this direction in the United States.

Arthritis is not a uniform disease. We recognize acute and chronic forms of different infective and noninfective types, specific and nonspecific arthritides (classification given below), but the primary cause of many types is still unknown. Several etiological factors have been held responsible for noninfective arthritis; metabolic and endocrine disturbances, subvitaminoses, mechanical overfunction of the joint or of the spine, faulty nutrition of the joint, vascular and nervous causes, heredity, allergy, etc. The latest reports referring to this subject incline to the opinion that the vegetative nervous system seems to play an essential part in the etiology of chronic arthritis, causing contraction of the blood vessels supplying the joints and their adjacent

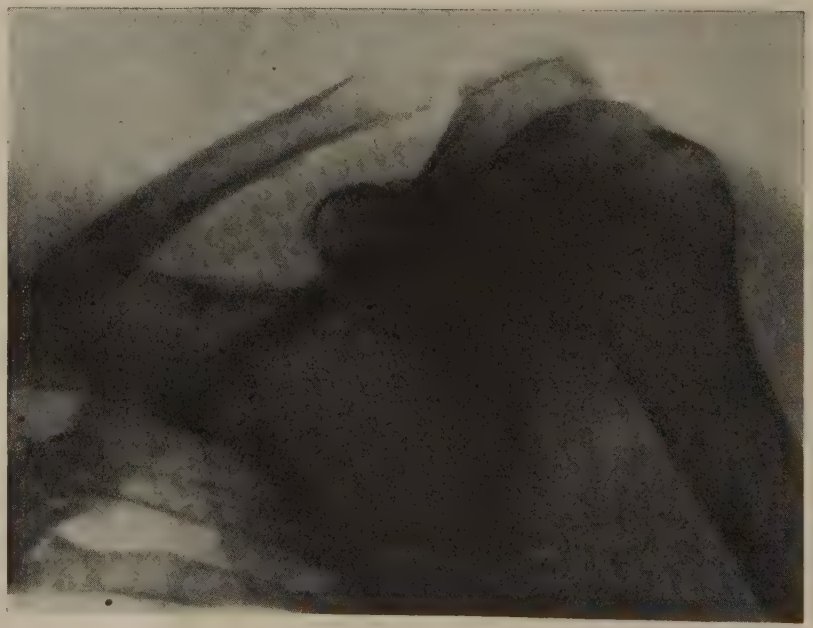

FIG. 2.—After six x ray therapy treatments: Pain, swelling and tenderness gone, mobility restored, and all bursal deposits gone Apr. 25, 1946.

tissues. This vasoconstriction is claimed to be the reason for pain and lowered temperature of the skin, as a direct and immediate consequence, and also for the anatomical changes in the bones, cartilages and soft tissues of the joint as an indirect and late sequel (impairment of blood supply). The symmetrical occurrence of chronic arthritis associated with symmetrical trophic changes of the skin and nails is supposed to be proof of this theory.

The lack of exact knowledge of the etiology is a great handicap in the classification and management of chronic arthritis. Any type of acute arthritis, whose origin we know, may be prolonged into the chronic stage. However, there still remains a large number of chronic arthritis cases whose etiology is rather obscure. At the present time, two large groups of chronic arthritis with unknown or indefinite origin are generally accepted (differentiated clinically, pathologically and roentgenologically). They are as follows:

1. Atrophic type (rheumatoid, infectious, proliferative type—arthritis deformans).
2. Hypertrophic type (osteoarthritis, degenerative senescent type).

Spinal osteoarthropathies.—Under the heading of spinal osteoarthropathies, we include such diseases of the spine as ankylosing spondyloarthritis, Bechterew's spondylitis, osteoarthritis and spondylitis ossificans. The apophyseal joints (Fig. 2) are eburnated and hypertrophic with actual fibrosis and bridging. Fusion of facets may actually occur.

Table I: Classification of Spinal Arthritis (Chronic Spondylitis)

Atrophic type:
1. Rheumatoid spondylitis
2. Marie-Strumpell's disease
3. Spondylitis ankylopoetica
4. Spondylitis ossificans

Hypertrophic type:
1. Spondylitis osteoarthritica
2. Degenerative spondylitis

Rheumatoid arthritis.—By the term "rheumatoid arthritis" we mean the Marie-Strumpell type, not that commonly referred to as chronic hypertrophic osteoarthritis. One of our pioneer teachers in radiology (A. W. George) recently stated the following: "The term hypertrophic arthritis has been and still is being used relative to the marginal changes found about the bodies of the vertebræ, cervical, dorsal and lumbar. For these conditions the Germans have always used the term 'arthritis deformans', the English 'osteoarthritis', the accepted American term for something having been 'hypertrophic arthritis' ".

As far as roentgenologists are concerned, the term "hypertrophic arthritis" should not be used. It has no foundation in fact, is not accurate and has no pathological basis to substantiate its use. The accepted definition of the word arthritis is *inflammation of a true joint* while a true joint is properly defined as *one with a secreting synovial membrane.* If then these two definitions are accurate, the term "hypertrophic arthritis" has no place in our nomenclature relative to marginal changes of and about the bodies of the vertebræ. The term that we have used and the one we would elect to use for the reason that it has a fundamental basis in fact is *hypertrophic changes.* If then a question of aggravation arises, the definite statement can be made that there can be no aggravation of these changes since what we see is normal healthy bone.

FIG. 3.—Shows clouding in apophyseal joint between superior and inferior articular facets at third and fourth lumbar vertebrae due to arthritis changes.

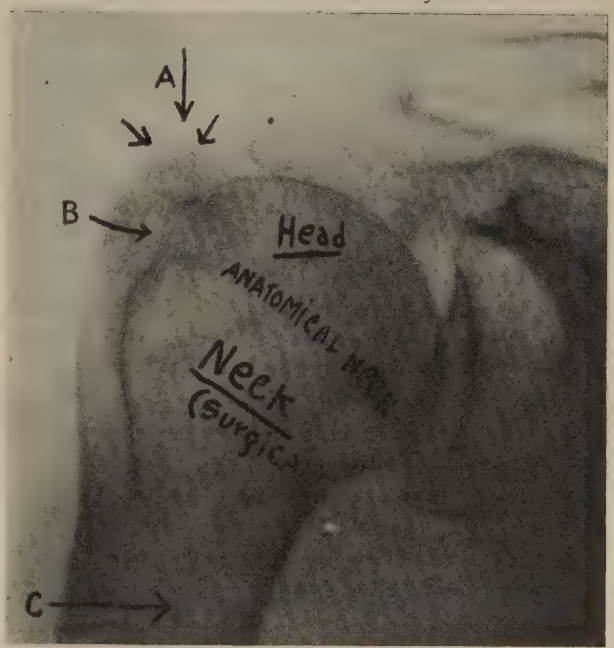

FIG. 4.—Acute subdeltoid bursitis. Pain extremely severe; no motion possible. Six deep therapy treatments given to restore joint motion and elimination of pain. A, subacromial bursa; B, greater tubercle; C, humerus.

Subsequent to the introduction of the term hypertrophic changes, many investigators have given their attention to the cause of these marginal bone changes. It is generally conceded that lipping, spurs and marginal deposits are brought about by chronological or anatomical age or both and are in all probability the result of faulty posture, socalled wear and tear and probably all these are occupational changes.

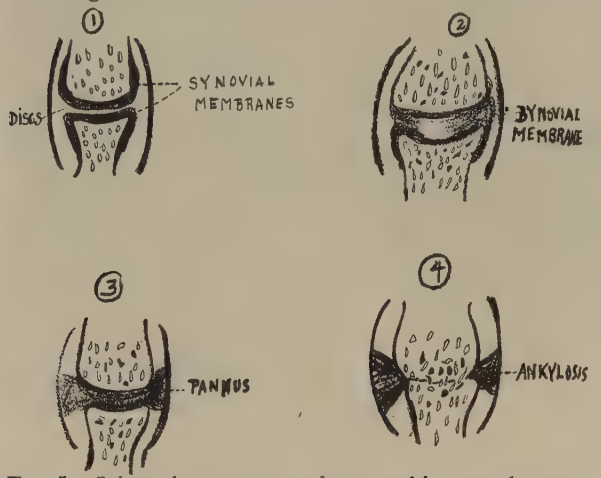

FIG. 5.—Joint changes seen in atrophic or rheumatoid arthritis. Deep x ray therapy in this form of arthritis seems to allay pain and swelling. It tends to stabilize the acute joint condition in whatever phase x ray therapy gets the upper hand. The radicular pains in hypertrophic arthritis are markedly relieved by x ray therapy.

Acute bursitis (Fig. 4) is a painful and disabling condition affecting the joint adjacent to the bursa as well as the bursa itself. The cause may be trauma or infection. The bursa becomes distended and acutely sensitive. The joint is painful. Marked disability occurs. There is localized tenderness over the bursa and joint motions are restricted. Calcareous or other dense deposits frequently occur outside the bursal sac.

Roentgen Therapy

We have previously stressed the remarkable success following x ray therapy in arthritis and bursitis. It is not known whether the effect is merely analgesic through the associated nervous system response to x ray therapy or whether it is due to the response occasioned by an inflammatory reaction of the tissues to x ray treatment which relieves pain mainly on account of the resolution of inflammatory deposits which have not as yet become organized. As Tillis (15) states, irradiation affects the cellular portion of the blood and he considers that the antibodies and ferments liberated by the leukocytes in and around the inflamed area are the effective agents. The rate at which lymphocytes, polymorphonuclear leukocytes and eosinophiles are affected by irradiation determine the rate of progress. These factors clarify the clinical results previously described and make it evident that roentgen therapy should be used as early as possible in such conditions. On the other hand, the effect may be due to a general reaction as suggested by Goldhamer (1).

Langer believed that the effect was achieved by action upon the vegetative nervous system. He regarded x rays as inducing a better blood supply to the diseased area through their effect upon the vegetative nervous system and this produced a better tissue metabolism. Suffice it to say that although we do not know the exact scientific reason for the relief accomplished, we have ample clinical demonstration of the effective subsidence of symptoms with subsequent relief to patients, and in the main that is what counts. Although we cannot definitely explain the action of x rays in arthritis, we believe that roentgen therapy is the best method of controlling the symptoms and bringing relief to the patient, this being in the final analysis the aim of all therapeusis.

Treatment of the arthritic condition is carried out in two ways—general and specific. In many instances, the general health of these patients is not good—persistent pain and distress have made them nervous and reduced their stamina. Such conditions require relief. Also, diet needs careful supervision, especially in respect to carbohydrate ingestion. Hydrotherapy (warm baths), plus light massage of the muscles are helpful where definite infective sources are present. Elimination of foci of infection is of course indicated and chemotherapy may be used. Menopausal arthritis frequently improves upon the administration of estrogenic hormones. Hypothyroid cases improve under thyroid administration. The two last may be indicated simultaneously.

Specific therapy consists of x ray administration. This may be given either with medium voltage for arthritis of the small joints of the fingers or toes or high voltage for lesions in other parts of the body. In the acute stages, treatment is administered three times weekly for two or three weeks and then once a week for five or six more weeks as the exigencies of the case may require. In chronic cases, one or two treatments per week are given for as many weeks as one deems necessary to control the symptoms. Treatment is repeated after a latent period of four to eight weeks, if necessary.

When superficial therapy is used, a two mm. filter is employed. The dosage given per treatment is the same whether superficial or high voltage is used,—180 to 200 roentgen units per area. Two or more areas may be treated at a time, depending upon the area involved, the extent of involvement and the general condition of the patient. The distance of the tube from the skin is 50 cm.

The results of treatment are manifested in relief of pain and ability to use limbs previously not functioning. Swelling when present gradually subsides under treatment.

Chronic rheumatoid arthritis.—The value of x ray therapy for chronic rheumatoid arthritis, particularly of the spine, has long been recognized by radiologists in European medical centers and its use was introduced into this country by the late Hans Langer. Undoubtedly much greater progress would have been made in treating this condition if the

cases selected for treatment were confined to the rheumatoid group, but practically all types of arthritis have been treated with x ray therapy. In many, failure to respond gave rise to an unfavorable attitude toward the treatment of the chronic rheumatoid type. This should not be the case and all patients with chronic rheumatoid arthritis should be given x ray therapy administered in the proper manner.

In our opinion, a therapeutic test consisting of four to six treatments over a given area of the spine should be given before any decision is made as to the advisability of continuing x ray treatment. If the pain is relieved with this brief series (and pain is usually the patient's reason for seeking treatment), an extended series of treatments, until all pain is relieved, is well worth while.

X ray technique.—Rheumatoid arthritis requires higher kilovoltage and a heavier filter than the other conditions considered in this text. A high intensity dose is not required to secure a good result. A most satisfactory result was secured in Case 68 (see below).

Fibrositis and neuritis.—The terms "neuritis" and "fibrositis" are often loosely used clinically without any established pathological proof of their presence. Pain and some limitation of motion in the area have usually been the basis for the diagnosis and the reason for seeking treatment. At any rate, many such painful areas have been treated with x rays with prompt relief for the patient. No claim is made here that we have successfully treated definite organic neuritis or fibrositis, but some patients with such clinical diagnoses have responded.

Bursitis.—The results obtained by treatment with roentgen rays in this group of painful conditions involving the bones and joints are in general most encouraging. While the method cannot be recognized as a cureall and some patients experience no relief, we believe that a greater percentage of improvement was obtained by this method than could have been effected by any other known method of treatment. In a number of instances, almost miraculous results have occurred. Patients walked who had for some time been unable to or regained the use of arms or hands when they were thought to have been hopelessly crippled.

X ray technique for bursitis.—In the treatment of bursitis by x ray, high voltage x ray therapy with a 0.5 mm. copper filter is used with 1 mm. aluminum. Moderate voltage x ray may be employed, using a 2-4 aluminum filter but in my opinion this form of therapy is not as efficient as that employing high voltage x ray. Treatment is administered to the affected joint through several areas at each sitting. It is my custom to treat subdeltoid bursitis through three areas at each sitting—an interior, a superior and a lateral shoulder area, using either a 6 by 8 cm. or an 8 by 12 or sometimes a 15 by 15 cm. field. 100 to 200 roentgen units per field is given at each treatment. In chronic or long-standing cases, one or two treatments per week are given for six to eight weeks. In the acute cases, the first one or two treatments may exacerbate the distress so it is advisable to prescribe codeine for the first few nights in order to relieve the pain. Gradually, as the x rays take effect, sedation is eliminated. Relief is usually achieved in four or five treatments. Calcium deposits may altogether disappear after a few treatments or they may require a longer course of treatment for complete resolution. In some cases, complete relief and restoration of function occurs even before all the calcium is absorbed.

Case Report

CASE 68.—M.T., a woman, aged sixty-one, was referred for treatment of rheumatoid arthritis of the spine because pain in the upper part of the back and shoulders of four weeks' duration had failed to respond to any of several types of medication and physical therapy. Treatment was started with 180 kilovolts 60 cm., 0.5 mm. copper and a 1 mm. aluminum filter, using 96 roentgen units per treatment. She was treated for two weeks. Seven treatments were given over the cervical area, four over the dorsal and two over the lumbar region. After the first week, pain was relieved and after the second, treatments were discontinued. The patient has had no recurrence.

Table II: Some Typical Cases Treated By X Rays

X ray Diagnosis	*Duration*	*Age*	*Sex*	*Total Dose*	*Parts Treated*	*Result*
Atrophic spondylitis	16 years	58	M	2800r	Spine	improved
Hypertrophic arthritis	12 years	51	M	1500r	feet	improved
Bursitis	1½ years	39	M	1800r	right shoulder	cured
Hypertrophic arthritis	6 years	46	F	1000r	sacroiliacs	improved
Hypertrophic arthritis	3 years	43	F	1500r	knees	improved
Bursitis	6 months	39	M	1500r	shoulders	

(There were nine acute, five subacute and four chronic bursitis cases).

Conclusions

1. X ray therapy is a readily available, practical, economical and efficient method of treatment for arthritis and bursitis.
2. The results are lasting and usually occur shortly after the beginning of treatment.
3. Frequently in bursitis with calcium deposits, the deposits disappear following irradiation.
4. Exercising proper administration, we have never encountered any adverse effects from such treatments.
5. A series of cases is reported with satisfactory results.
6. The use of rayderm ointment (26) is advised after all roentgen treatments in order to prevent posssible secondary skin reactions.

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(*Continued on page* 427)

GOLD SALTS IN THE TREATMENT OF RHEUMATOID ARTHRITIS

A Report on 150 *Additional Cases**

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Much has been written about the use of gold salts in the treatment of rheumatoid arthritis. The European literature has been particularly voluminous, and in recent years numerous reports have appeared in American literature.

Forestier began to use gold for arthritis in 1928. In 1932 (1), he published a report on one hundred cases and in 1934 (2) a report upon five hundred. Subsequent reports by the same writer appeared in 1935 (3) and 1936 (4). In the last report he claimed that the advance of chronic progressive polyarthritis can be arrested by gold treatment in eighty-five percent of the cases. In 1937 Hartfall, Garland and Goldie (5) published a review of a series of nine hundred cases of chronic arthritis in which they showed clinical improvement in eighty percent of the rheumatoid arthritis cases and in fifty percent of the cases of osteoarthritis. Numerous other European reports have appeared.

In this country, Sashin and Spanbock (6) gave a favorable report upon twenty-two cases. Phillips (7), using aurothiomalate of sodium (myochrysine) in a series of twenty cases, nine of which were rheumatoid arthritis, obtained improvement in six and toxic reactions in fourteen and was one of the few investigators who rendered an unfavorable report. His report might make one cautious in using gold salts alone. However, a great deal of the toxicity can be immunized by continuing the gold salts with a sulphydryl group.

Key, Rosenfeld and Tjofalt (8) and Key in a later article, are enthusiastic about the use of gold salts. Key states: "There is some difference of opinion in regard to their value in infectious arthritis, degenerative arthritis and spondylose rhizomelique. However, all are agreed that in true rheumatoid arthritis (proliferative or atrophic arthritis) gold salts are the most valuable agents known at present."

Dawson, Boots and Tyson (9), reporting the results on the first one hundred cases out of a series of two hundred fifty at the New York Presbyterian Hospital, obtained striking improvement in fifty-one, moderate improvement in twenty-five, slight improvement in nine and no improvement in fifteen. In twenty-two percent, the disease was rendered inactive. They conclude that chrysotherapy offers greater promise than other forms of therapy in the treatment of rheumatoid arthritis; that in the hands of careful clinicians, this therapy is both desirable and justifiable.

Cecil, Kammerer and de Prume (10), in a series of 245 cases treated with various gold salts, obtained a remission in thirty-one percent, great improvement in thirty-five percent, moderate improvement in nineteen percent and no improvement in fourteen percent. Thirty-nine percent of the early cases and twenty-nine percent of the late cases had remissions. They concluded that gold is the best single agent for the treatment of rheumatoid arthritis, for certainly most other forms of treatment are very disappointing. When given in adequate dosage, gold salts cause remission or marked improvement in sixty-two percent of patients with rheumatoid arthritis; with better results obtained in patients less than one year old.

Cecil (11) elsewhere feels that the outlook for gold therapy is quite promising. Students of arthritis after being in the wilderness of pseudotherapeutic remedies for many years are now beginning to get results. Nearly all the patients state they feel better after gold treatment than after any of the other forms of treatment.

Tarsy (12), in a series of fifty-two cases of rheumatoid arthritis plus a second series of twenty-two cases, concluded that gold salts are one of the most valuable therapeutic agents in the treatment of arthritis.

The numerous favorable reports stress the potential toxicity of gold therapy as a definite objection to its use. With this in mind, it is necessary to analyze our results critically.

The therapeutic mechanism of gold salts in arthritis is not clearly understood, although most of the investigators agree that gold occurs in the synovial fluid and in the same concentration as in the plasma. According to the report of Wetherby and

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Andresen (13), the plasma of patients treated with gold salts is bacteriostatic for a period of three to six months after treatment. Consequently, since the concentration of gold in the synovial fluid and plasma are the same, there is a possibility that there may be a local bacteriostatic action in the joints.

Six years ago I reported (14) a summary of the results of treating one hundred cases of arthritis in the Hackensack, N.J., Hospital, by means of intramuscular injections of gold salts, seventy-nine percent of this series having responded exceedingly well. At that time, I made the statement that the results were most encouraging due to the fact that there was a rapid response of the patient to the treatment, little pain connected with the administration of the gold salts, and an absence of systemic reactions, in spite of the fact that a great many of these patients had hypertension, diabetes and other diseases. Since that date, we were able to establish contact with six members of this series, and can report that these six were apparently cured as there was no return of the arthritis either symptomatically or objectively over that period of six years.

In the present series of one hundred fifty additional cases of rheumatoid arthritis treated at the Hackensack Hospital, Hackensack, N.J., eighty-six were women and sixty-four men. Ninety percent were improved after treatment and ten percent showed no improvement.

In both of these series a five percent solution of a sulfhydryl gold naphthyltrisulphocarbonium derivative[1] was used exclusively at the Hackensack Hospital, supplemented by other forms of treatment such as physical therapy, vitamin preparations, orthopedic appliances, etc. The only laboratory test used as an index of improvement was the sedimentation rate.

The mode of administration was entirely by the intragluteal route in doses of two cc. Three injections were given the first week, two the second week and one weekly thereafter until a total of twelve had been given. After a four weeks' interval, a second series of twelve was given at weekly intervals. If necessary, one to three more courses were given subsequently.

With careful clinical and laboratory investigation, the percentage of toxicity in our newest series was only 4.6 percent, namely, seven patients out of a total of 150 receiving the gold salt. However, one must bear in mind that the toxicity of gold is on a par with that of any heavy metal. Three patients exhibited a moderate degree of urticaria which lasted two weeks, leaving a brownish pigmented macular eruption resembling pityriasis rosea which subsequently cleared in three weeks. The remaining four patients had a constitutional reaction with a moderately elevated temperature resembling grippe. This reaction cleared up in twenty-four to seventy-two hours. In spite of these reactions, treatment was continued using one cc. intragluteally instead of the two cc. customarily used. Also, the interval between injections was made slightly longer. None of these patients developed a secondary anemia, a fact substantiated by repeated blood counts. In this series, there was not one instance of a gold brominism nor of stomatitis. For the first ten injections, thirty-five percent had transitory mild local reactions manifested chiefly as somewhat increased joint pains. This has been regarded as a good prognostic omen by such investigators as Hartfall, Garland and Goldie.

[1]This product, known as Aurocein, was furnished by courtesy of the Vincent Christina Laboratories, New York, N.Y.

Summary and Conclusions

1. A new series of 150 patients with rheumatoid arthritis received injections of a gold compound—a five percent solution of a sulfhydryl gold naphthyltrisulphocarbonium derivative (aurocein). Ninety percent showed a favorable therapeutic response.

2. Skin reactions were present in two percent of the series and were of a moderate and transitory character, clearing up in four to five weeks. The so-called grippe reaction with a mild fever was present in 2.6 percent of the patients, which reaction cleared up in twenty-four to seventy-two hours.

3. The gold salt used in this series exhibits a low percentage of toxic reactions and is indicated in the treatment of rheumatoid arthritis. The low toxicity of this particular preparation makes it a type of gold salt that can be used over a prolonged period of time with considerable safety.

4. With careful clinical and laboratory investigation, the percentage of toxic reactions in the present series was 4.6 percent. The treatment was not discontinued in these cases but the dosage reduced and the intervals increased.

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THE ACTION OF HORMONES ON VARICOSE VEINS IN PREGNANCY*

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It has been my opinion for some time that varicosities in pregnancy were not due to pressure of the gravid uterus upon the veins of the pelvis, nor to increased abdominal tension. The development of varicose veins and particularly telangiectases in some women in the eighth and twelfth weeks of pregnancy lead one to suspect that perhaps some circulating hormone plays a part. It was with this view that this work was done. Pathologically a varicose vein is one whose wall is thinned out, and relaxed. What then causes this relaxation? Since the uterine muscle (the cervix) relaxes. Hegar's sign exists, and the joints also greatly relax, it is highly probable that a circulating blood hormone is present in early pregnancy. To alleviate these complaints in pregnancy, estrogenic substance in the form of di-ovocylin was administered parenterally.

The series of cases consisted of twenty-seven patients, twenty-one multiparas and six primiparas who are given this drug in doses varying from ten thousand to fifty thousand international units. The material was supplied by Ciba and Company.

Data from Cases Mentioned Above

Number of cases, twenty-seven; twenty-one multiparas and six primiparas.

Incidence of abortions, one and five tenths percent.

Number of pregnancies, forty-six in twenty-seven patients.

Previous illnesses medical and surgical, irrelevant.

Toxic symptoms during the antepartum period, two percent.

When the varicosities appeared: first trimester, twenty; second trimester, five; third trimester, two.

Bleeding: no cases threatened to abort while treatment was taking place.

Weight gain per patient, twenty-three pounds.

Height average, five feet four inches.

Constipation, forty-five percent.

Nausea and vomiting, twelve cases.

Average age, twenty-five years.

Types of variocosities.—Telangiectases, twenty-six; large veins, sixteen.

Location of veins.—Thigh, seventeen; leg, twenty-seven; ankles, twelve.

Subjective complaints.—No complaints, seven; edema, twelve; pain, fourteen; discomfort, twenty.

All symptoms increased toward evening, and when walking, and were relieved temporarily with rest and reclining.

Treatment

Alpha estradiol dipropionate (di-ovocylin) was used in the treatment in doses varying from ten thousand to fifty thousand international units once or twice weekly. No untoward symptoms were complained of by any of the patients during treatment. Ninety-six injections of ten thousand international units were given. Twenty-four injections of twenty-five thousand international units and twelve injections of fifty thousand international units were given. The average dose for clearing up the symptoms was ten thousand international units. In three of the patients who received the largest dose, fifty thousand international units, the telangiectases, and edema of the ankles, were markedly relieved.

Results

Objective.—Amelioration of the smaller and larger types of veins, eleven; reduction of edema, seven.

Subjective.—Temporary improvement, fourteen; complete improvement, thirteen.

Postpartum Data

Duration of labor average: nine and five-tenths hours.

Type of delivery: twenty-four spontaneous, three low forceps—one DeLee and two Simpsons.

Types of labor: twenty-seven easy.

Postpartum conditions: no postpartum hemorrhages; one case of elevated temperature and one of mastitis.

Weight of fetus: ranged from five and eight tenths to nine and two tenths pounds.

Conclusions

1. There was definite relief from the complaints due to the varicosities during the antepartum period of gestation, and this was produced by an estrogenic substance (di ovocylin) in dosages ranging from ten thousand to fifty thousand international units at various intervals.

2. The incidence of miscarriages in the series was nil, although there were twenty-seven cases, which shows that there is a comparatively high corpus luteum in the circulating blood of the average pregnant patient.

3. The twenty-five and fifty thousand international unit doses did not cause contractility of the uterus and subsequent miscarriage.

4. The average duration of labor was comparatively small, nine and five tenths hours.

5. Practically speaking, during the antepartum period, patients who have disabling complaints due to varicose veins may be relieved and made comfortable with estrogenic substances.

It seems from the work reported here that estrogen and progesterone have different actions upon smooth muscle in the uterus, veins, joints, and perhaps gastrointestinal tract, including the gallbladder. Further work and time will tell what practical application can be made of these facts. Rubin has shown that estrogens increased peristalsis in the tubes of humans and rabbits (3).

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Editorials

Dietetics and Dietitians

It is universally recognized that a suitable diet has as much effect on the prevention of disease and its treatment when acquired, as medical treatment. It is indeed an important form of such treatment, as in the case of illness, the physician in attendance advises as to the most appropriate food to be taken, in what quantities and at what stated periods. In the United States the question of diet is regarded as an essential factor in treatment. The American Dietetic Society is a powerful body, whereas, in Britain the rôle of the dietitian has not been regarded seriously. However, this phase of treatment and the need for qualified dietitians has become apparent and hospitals in Britain are following the American example. In the new British health services, in welfare centers, in prenatal and postnatal clinics and in schools and colleges, dietetics and dietitians, will take a leading part.

There is now a British Dietetic Association which is making headway and the essential academic qualification for dietitians is a diploma in the subject which is awarded by King's College of Social Science, London, the Glasgow and West of Scotland, the Royal Infirmary of Edinburgh, and the Royal College of Nursing. The course of training is eighteen months, the final six months of which are spent in practical work in a hospital, and before taking a diploma, course students are required to have a university degree in pure household or domestic science, the State registration in nursing, a teacher's diploma in domestic science, or an institutional management diploma. In the United States, the range of work of dietititians is wide. In industry dietitians are numerous and their work on the whole is effective, although, as a rule, the dietitian is not required to be so skilled as in hospitals where the sick and injured are to be fed in accordance with their state of health.

The dietitians in industry strive to prevent disease by regulating the food of the healthy or those not obviously in bad health, a national task of the first importance. There is no need to lay stress on the fact that good food and a variety of food is indicated for all individuals and that, as far as possible, it should be in keeping with the person's form of work and individual idiosyncrasies of body and mind. Of course, in industry, it is not the duty of the dietitian to adapt food to the bodily and mental needs of the workers, but it does come within her province to order and even insist that the food should be wholesome and, as far as may be, digestible and nutritive.

The United States has led the way in the matter of ordering that the nation should be well fed and in providing dietitians for sick and well, so that it should be done properly. Britain is following in her footsteps with conservative zeal.

The Journal of Gerontology

The first issue of this imposing looking magazine appeared in January, 1946. There are 152 pages. The paper is of excellent quality, and the type is easily readable by those who may be having "a little trouble with failing eyesight". Charles C. Thomas, Springfield, Illinois, is the publisher, and in taking on this new job he is adding to a long series of successes in printing high-class material, especially books of value to doctors. Great praise must be meted out for the splendid way this new "baby" has been ushered in.

The Journal of Gerontology is described as a quarterly magazine, owned and controlled by the Gerontological Society, Inc. It publishes original manuscripts dealing with or bearing on the problems of aging from the fields of natural and social sciences and the humanities, review articles, and selected abstracts from current literature appropriate to the subject. A nontechnical *Supplement* is published quarterly, is separately bound, and, although sent to all regular subscribers of the *Journal of Gerontology*, yearly subscriptions to it may be purchased separately. Each article in the *Journal* is abstracted and rewritten in nontechnical language for the *Supplement*. These digests vary from 750 to 2,500 words in length and are submitted to the authors of the original scientific papers for correction of fact.

Further information suggests how manuscripts should be made ready for presentation. This follows the pattern common to all other journals as to size of sheets, spacing, etc., but manuscripts should not exceed twenty printed pages including illustrations. Tables are expensive to print and should be limited as far as possible. An article may be submitted in a language other than English and will be translated into the latter language if deemed worthy. One assumes that this is for the encouragement of foreign authors who may have something of value to contribute and yet may hesitate to do so because of the "language barrier".

Robert A. Moore is editor-in-chief, and he has an advisory board of some thirty-two "experts" in almost every subject from dentistry to insurance; the

aged should be insured, you know! The list of names certainly looks imposing.

The first article is by Mr. Lawrence K. Frank, New York, who has written previously on human conservation and allied subjects for the government. He served on the War Industry Board in 1918-1919, the Laura Spellman Rockefeller Memorial, the General Education Board, and the Josiah Macy, Jr., Foundation. He calls attention to the widening span of life, and the seeming bewilderment of aging men and women who are caught up in the whirlwind of fast-moving events. They need not only general advice and guidance but as much individual care as can be reasonably planned for them. The whole idea in general of this socalled new movement, which is not really new at all, is to prevent wastage of human resources, to learn all we can concerning ways of human betterment, and to incorporate this knowledge into working organizations so that they may function to protect and conserve all members of society.

There are about a dozen other articles by excellent writers, which have to do with such matters as nutritional deficiency and budgeting for social security. Truly, the field seems as wide as the very earth itself! At the end of each contribution, there is an abstract in French, Spanish and Russian which shows the desire on the part of the editors to make the pabulum available to "One World".

We can whole-heartedly welcome this excellent new quarterly journal, not only to physicians, but to every one who is interested in seeing a better order of society emerge from the present welter of doubt, incrimination, suspicion, greed and other stupid human passions.

The Problem of Caring for the Aged

In some countries the problem of the aged calls for careful consideration and a solution as satisfactory as is possible. For example, in Britain it is a pressing problem. In that country the old and elderly are present out of proportion to the general population. Owing to the greater length of life and to the fact that so many of the young and able have been killed or maimed badly in war or their health injured by lengthy residence under unfavorable conditions in tropical countries, the proportion of elderly and aged persons to the general population has continued to increase at a menacing rate.

In civilized countries the aged must be cared for. In the London *Lancet,* February 2, 1946, is an article on the care of the aged, recording observations based on experience in the Glasgow outdoor medical service, by M. Curran, J. S. Orr, J. Hamilton, W. Poole and E. N. Thompson, all medical practitioners in Glasgow and district medical officers for the city. The article presents a number of startling facts preceded by the statement that old age has become a problem of national importance in Britain at any rate.

In 1921 the number of people in that country over the age of sixty-five years was roughly five and three quarter million; in 1931, seven and a half million; in 1936, eight and three quarter million; while the total population of these years was 42,769,196 in 1921, 44,790,485 in 1931 and 48,895,000 (estimated) in 1936. These are the data and the writers of the article were able to review the subject from the inside, so to speak, among Glasgow's dense population. The total number of old people investigated was 1,001, comprising 273 males over sixty-five years of age and 728 females over sixty years of age, which are the generally acceptable pensionable ages. Each individual was visited by the doctor in his or her home in order to obtain accurate information concerning domestic conditions.

This is merely the fringe of the subject discussed which deals with it from most angles, and is besides an analytical survey. It proves to the hilt that the problem of old age in Britain is outstanding and is beset with difficulties. For example, women preponderate largely; there are about two million more women than men and their average age is greater than that of men. Of diseases, women are more subject to rheumatism than men although rheumatism may be termed the national disease and is responsible for more disability and consequently for more workless days than any disease. And it is said that the incidence of rheumatism increases with age. One point stressed by the writers is that the war has proved that many old people thrown previously on the scrap heap are quite capable of continuing at some kind of productive work and some are anxious to do so. The Papworth Settlement has shown how people who are young but physically unfit can become self-supporting and independent of charity, and it is urged that it is surely not beyond the resources of Britain to provide productive work for the old but comparatively fit.

The data given and the experience of the authors lead them to the conclusion that the old in Britain should receive greater attention and that the question should be investigated thoroughly. Plans should not only be mapped out but carried out, so that the aged may pass their closing years in comparative comfort and independence, and not in institutions unless they are alone in the world and helpless.

An Egyptian Academy of Science

Egypt has a long tradition of medical learning, chiefly perhaps in the days when the Greeks ruled

the country. The library at Alexandria was then the largest in the world and contained the best works in literature, including medicine, and several of the leading men of medicine lived there. In recent times, however, Egypt has felt the lack of an academy of sciences, including medicine. True the Institut d' Egypte was founded in 1859 (reviving an older institute founded by Napoleon), but its main tendency is literary and artistic. Egyptian biologists and physicists have published their papers in the *Bulletins* of the Paris Academy of Medicine or the Belgian Academy.

In *Nature,* May 4, 1946, A. M. Mosharrafa Pasha, dean of the Faculty of Sciences, Fouad I University, Cairo, points out that with the establishment of a university in Cairo in 1925, scientific research in Egypt received a strong impetus. Already more than five hundred papers on original research from the Faculty of Science of the University have appeared; and of these, nearly three hundred and fifty have been published in scientific journals and in the proceedings of learned societies abroad (with more than two hundred papers in British journals). The faculty of medicine has contributed to the growth of pure science in addition to their work in the fields of applied science. The Egyptian Royal Medical Association, founded in 1919, publishes a journal.

Thus from all points of view the establishment of the Egyptian Academy of Science is a natural step in the development of scientific activities in Egypt and a step in the right direction. The Academy was formally instituted in 1945, and its first scientific meeting was held in April of that year. Its first publication is now on the press and will appear soon.

King Farouk has founded four annual prizes each of the value of $5,025 or thereabouts to be awarded for the best contributions to the progress of science. These prizes are for mathematical and physical sciences, biology, chemistry and geology. Egypt may be again, as she was in her palmy days, a storehouse of knowledge in the Middle East. She is well situated and her King and leaders appear to be anxious to give the natives good opportunities to learn the up-to-date scientific methods in all branches of knowledge, and in particular, in medicine.

News Items

Histopathology of Starvation.—The Army Medical Library provided literature for research on the histopathology of starvation, which is being conducted by Captain Earl B. Wert of the Army Institute of Pathology. The project is based on a study of various organs of the bodies of sixty patients who died as a result of starvation at the German prison camp at Dachau. The results of this study formed part of the exhibit, shown by the Army Institute of Pathology at the San Francisco meeting of the American Medical Association.

Sugar Research Prize Award.—For original studies which may enable scientists to learn more about the manner in which sugar is utilized in the human body, three University of California research workers, Drs. W. Z. Hassid, M. Doudoroff and H. A. Barker, have received the first intermediate $5,000 prize award from the National Science Fund of the National Academy of Science for their work in sugar

Graduate Scholarships for Foreign Physicians.—Dr. Konstantinos Prouskas and Dr. George Kiourtsis have come to the United States for graduate study in medicine. Both are graduates of the University of Athens. They have been awarded scholarships by New York University School of Medicine, where they will study the latest developments in the field of metabolism, pediatrics, syphilis, and preventive medicine. They will work in all departments of the hospital and at various city institutions, improving their own techniques and learning the advances made by Americans in the past five war years. These graduate scholarships have been established by New York University School of Medicine to aid in training foreign physicians, who, on account of the war, have been unable to keep abreast of recent developments in medicine.

Mississippi Valley Medical Society Essay Contest.—Dr. Arthur J. Geiger, assistant professor of medicine, Yale University School of Medicine, is the winner of the 1946 annual essay contest of the Mississippi Valley Medical Society "for the best unpublished essay on a subject of practical and applicable value to the general practitioner of medicine". Dr. Geiger's subject was: "Penicillin therapy in subacute bacterial endocarditis". The second prize was awarded to Dr. F. Steigmann, University of Illinois, for his essay on "The problem of jaundice in general practice", and the third prize went to Dr. Rutherford T. Johnstone, Los Angeles, Calif., for his essay entitled "A basic approach to the diagnosis of the occupational diseases". Dr. Geiger will receive one hundred dollars, a gold medal and a certificate of award. He will read his paper at the annual meeting of the Mississippi Valley Medical Society, to be held in St. Louis, Mo., in September, and it as well as those by Drs. Steigmann and Johnstone, will appear in the January 1947 number of the *Mississippi Valley Medical Journal.*

Willard Gibbs Medal.—Dr. Linus Pauling, director of the Gates and Crellin Laboratories of Chemistry of the California Institute of Technology, has been awarded the Willard Gibbs Medal of the Chicago Section of the American Chemical Society. Dr. Pauling has done important research in the field of physics, particularly with regard to the structures of atoms and molecules, and has aided geologists by his studies of the structures of mineral crystals, accomplished chiefly by the use of x rays. Since 1935 he has carried on extensive investigations on serology and the structure of hemoglobin in the blood, and his work on the nature of antibodies has been of great value in efforts to solve medical problems related to immunity. Dr. Pauling, who is the thirty-fifth recipient of the medal, was awarded the Doctor of Philosophy degree by the California Institute of Technology in 1925, and also holds the honorary degree of Doctor of Science, conferred by Oregon State College and the University of Chicago.

Mississippi Valley Medical Society.—The eleventh annual meeting of the Mississippi Valley Medical Society will be held at the Hotel Jefferson, St. Louis, September 25-27, 1946. Over thirty clinical teachers from the leading medical schools will conduct this post-graduate assembly whose entire program is planned to appeal to general practitioners. There will be over sixty technical and scientific exhibits, round table luncheons, and a big banquet, preceeded by a social hour. Dr. Arthur H. Compton, Noble Prize winner and chancellor of Washington University, will be the principal banquet speaker, together with the presidents of the Illinois, Iowa and Missouri State Medical Societies. All ethical physicians are cordially invited to attend. A detailed program may be obtained from the secretary, Harold Swanberg, M.D., 209-224 W.C.U. Bldg., Quincy, Ill.

Mass Chest Survey Apparatus.—The operation of a new medical unit, designed and developed by North American Philips Company, Inc. for group tuberculosis chest examinations, was demonstrated at the annual meeting of the Massachusetts State Medical Society. This unit consists chiefly of the x ray tube with its power supply, the fluoroscopic screen, the automatic 70 mm. camera, and the control stand. In operation, the image on the screen is photographed in miniature size on a roll of film which accommodates 375 exposures. It is stated that on many assignments two to three hundred individuals per hour have been x rayed accurately and efficiently. Where the 70 mm. picture indicates the need for reexamination on conventional fourteen by seventeen inch x ray plates, the work can be done on this same apparatus. The unit is used extensively in the New York metropolitan area for tuberculosis chest examinations, and has withstood one-a-day, day-after-day setting up and dismantling routines. It has been in and out of schools, factories and every other type of location. In most cases, it has been handled by trained technicians who have labeled it extremely flexible and an outstanding contribution to the medical profession.

Gift to New York University-Bellevue Hospital Medical Center.—It has been announced that a gift of securities has been received from Mr. John D. Rockefeller, Jr., for the New York University-Bellevue Medical Center Campaign Fund and with it Mr. Rockefeller's promise of a similar gift after $7,500,000 has been raised from other sources. The present value of the securities received is approximately $500,000. It is the understanding that the half-way mark must be reached not later than December 31, 1947, to meet the conditions of the second gift. The campaign goal is $15,000,000. Contributions for the medical center, exclusive of this gift, now total $1,700,000, including the funds raised in two subsidiary campaigns for the Hall of Residence and the Auditorium (Alumni Hall), the latter oversubscribed by more than twenty percent. New York University will be responsible for six units in the medical center which in addition to the two mentioned will include a new College of Medicine, a University Clinic, a fourteen-floor University Hospital and an Institute of Legal Medicine. The New York Eye and Ear Infirmary will occupy a section of the University Hospital, when completed. These buildings will cover four city blocks between Thirtieth and Thirty-fourth Streets, First Avenue and East River Drive.

American Board of Obstetrics and Gynecology.—The annual meeting of the Board was held in Chicago, Ill., May 5 to 11, 1946, at which time one hundred and forty-one candidates were certified. A number of changes in Board regulations and requirements were put into effect. Among these is the requirement that case records must now be forwarded to the Secretary's Office from thirty to sixty days after the candidate has received notice of his eligibility for admission to the examinations for certification. The Board also ruled that it will not accept the nine months residency as an academic year toward years of training requirements following the termination of the official period of intern and residency acceleration, April 1, 1946.

The next written examination (Part I) for all candidates will be held in various cities of the United States and Canada on Friday, February 7, 1947 at 2:00 p. m. Candidates in military service are requested to keep the Secretary's Office informed of changes in address. For further information and application blanks address Paul Titus M.D., Secretary, 1015 Highland Building, Pittsburgh, 6, Pa.

Mississippi Valley Medical Editors' Association.—After four years of "no meetings" during the war, the Mississippi Valley Medical Editors' Association will resume annual meetings. The first post-war meeting will be held at the Jefferson Hotel, St. Louis, September 25th, during the meeting of the Mississippi Valley Medical Society. This will be a dinner meeting with three well known medical editors as speakers. A discussion period will follow each paper. Since the Mississippi Valley Medical Society will hold no meetings that evening a large attendance is anticipated. All interested in medical writing are cordially invited to attend.

Personal.—Dr. Luther B. MacKenzie and Dr. Hippolyte M. Wertheim are chairman and co-chairman of the committee appointed by the Medical Alumni Division of New York University Medical College to conduct a campaign to raise $1,000,000 for the University's $15,000,000 new medical center. Dr. MacKenzie is clinical professor of medicine at the University and Dr. Wertheim is assistant professor of clinical surgery.

Dr. Louis I. Dublin, second vice-president and statistician of the Metropolitan Life Insurance Company, has been named an Officer of the Order of Public Health of the Republic of France, by decree of the Office of the Ministry of Population, according to notification to him by R. Prigent, Minister. The honor, according to Minister Prigent, was in recognition and appreciation of a survey of child health and other health problems carried on in France by Dr. Dublin as representative of the American Red Cross during the fall of 1945.

Dr. Hyman I. Goldstein, Camden, N. J., addressed the American Association of the History of Medicine on May 27, 1946, in Atlantic City, N. J. His subject was "The history of medical education and of some medical men in New Jersey (1745-1945)." His talk was illustrated with lantern slides.

Lt. Comdr. George L. Cantzlaar, U.S.N.R., Brooklyn, N. Y., has been appointed director of Publications and Public Relations for the State Department of Mental Hygiene. Under Mr. Cantzlaar's direction will be the department's technical journals and its manuals, institutional and departmental reports and directories, and its pamphlets for public enlightenment in the field of mental disorders. He will also be responsible for the department's press relations and for its radio and motion picture programs. Mr. Cantzlaar in 1935 became editorial assistant for the *Psychiatric Quarterly* and other state mental hygiene publications, and from 1940 to 1943, was medical manuscript editor for W. B. Saunders Company, Philadelphia, Pa.

Dr. John H. Dingle has been appointed Elizabeth Severance Prentiss professor of preventive medicine, Western Reserve University School of Medicine, Cleveland, Ohio. He will succeed Dr. James A. Doull, who has resigned to join the staff of the U. S. Public Health Service, Washington, D. C.

Dr. George H. Humphreys has been appointed Valentine Mott professor of surgery at the College of Physicians and Surgeons, Columbia University, to succeed Dr. Allen O. Whipple, whose resignation will become effective on September 1st.

Colonel Howard W. Doan, M.C., has been designated executive officer, Office of the Surgeon General, to succeed Colonel Robert J. Carpenter, M.C., who is returning to private practice in North Adams, Mass.

Dr. Richard J. Plunkett, Springfield and Watertown, Mass., has been appointed director of the Division of Health and Sanitation of the Institute of Inter-American Affairs, succeeding Colonel John D. Yeagley, who has resigned to devote himself to postgraduate study and teaching at the Bowman-Gray School of Medicine at Winston-Salem, N. C.

Dr. Hart E. Van Riper, Scarsdale, N. Y., has been appointed medical director of the National Foundation for Infantile Paralysis, Inc. Dr. Van Riper is widely experienced in public health and welfare administrative work. Before joining the Foundation staff he was medical director of the Jackson Memorial Hospital, Miami, Fla., and prior to that for approximately three years was assistant director for maternal and child health in the U. S. Department of Labor's Division of Health Services. He is a Fellow of the American Academy of Pediatrics, a member of the American Public Health Association, and certified by the American Board of Pediatrics.

Dr. James H. Wall has been appointed medical director of the New York Hospital-Westchester Division of the New York Hospital. This is the New York Hospital's psychiatric hospital in White Plains, N. Y., which last year treated 752 patients. Dr. Wall succeeds Dr. Clarence O. Cheney, medical director for the past ten years, who is retiring after thirty-five years of service in psychiatric hospitals in this state.

Correction

A regrettable error appeared in the June issue of the *Medical Record,* page 364. Dr. Kagan's name was given as "Samuel" when it should have been "Solomon".

X Ray Treatment of Arthritis

(*Continued from page* 420)

14. BAKER, L. D.: Rhizomelic spondylosis: orthopedic and roentgen therapy. *Jour. Bone & Joint Surg.* 24:827 (Oct.), 1942.
15. TILLIS, H. H.: Therapy of arthritis. *Jour. Med. Soc. N.J.* 41:374 (Oct.), 1944.
16. OPPENHEIMER, *A.*: Development, clinical manifestations and treatment of rheumatoid arthritis of the apophyseal intervertebral joints. *Am. Jour. Roentgenol. & Rad. Ther.* 49: 48-76 (Jan.), 1943.
17. LATTMAN, I.: Treatment of subacromial bursitis by roentgen irradiation. *Am. Jour. Roentgenol. & Rad. Ther.* 38:178 (July), 1937.
18. BREWER, A. A., and ZINC, O. A.: Radiation therapy of acute subdeltoid bursitis. *J.A.M.A.* 122:800-1 (July 17), 1943.
19. HARRIS, J. H.: Roentgen treatment of acute bursitis of the shoulder. *Pennsylvania Med. Jour.* 46:683-4 (April), 1943.
20. BAIRD, L. W.: Roentgen irradiation of calcareous deposits about the shoulder. *Radiology* 37:316-25 (Sept.), 1941.
21. KLEIN, I., and KLEMES, I. S.: Treatment of peritendinitis calcarea in the shoulder joint. *Radiology* 37:325-30 (Sept.), 1941.
22. CHAPMAN, J. F.: Subacromial bursitis and supraspinatus tendinitis Its roentgen treatment. *Calif. and Western Med.* 56:248-51 (April), 1942.
23. SOLOMAN, W. M., and MORTAR, J. L.: Periarthritis of the shoulder: comparison of results obtained by physical therapy and by roentgen therapy. *Arch. Phys. Ther.* 22:607-10 (Oct.), 1941.
24. YOUNG, H. H.: Subdeltoid bursitis. *Proc. Staff Meet.* Mayo Clin. 19:250-3 (May 17), 1944.
25. BEHRENS, C. F.: Some roentgenological considerations pertaining to upper extremity pain. *J.A.M.A.* 127:888:890 (April 7), 1945.

26. Rayderm ointment supplied by Velvet Products Co., New York.

390 Merrick Road.

Letter From Britain

(From Our Own Correspondent)

Changes in the Medical Profession and Hospitals

Great even radical changes are taking place in the status of the medical profession here and presumably in the mode of practice of its members. It seems that the profession itself is to be nationalized that is to be, to a large extent, under government control. Hospitals too, if the scheme becomes law, are to be controlled in a similar way. However, until final decisions have been made and more exact knowledge as to the plan proposed in all its details has been made public "little can or should be said". In any event a discussion of politics even if they do affect the profession is not fitting in a medical journal of another country. Suffice it to say that at the present time it seems that opinions are divided with regard to the wisdom of this seemingly arbitrary measure. The object of a Letter from Britain is to give news of medical matters and of the profession there but not to criticize adversely government procedures in medical or health concerns.

Release of Doctors

The British War Office has announced recently that the following program for the release of medical officers has been notified: Group 48 from July 1 to July 31, Group 49 from August 1 to August 31, Group 50 from September 1 to September 30. Specialists will be released as follows: Group 34 from July 1 to August 15, Group 35 from August 16 to September 30. Whatever the changes in the medical profession may be, it is certain that capable medical men and women will be needed more than ever before whether they be under government control wholly or partly.

Health Service Bill Not For Northern Ireland

The Ministry of Health and Local Government Board for Northern Ireland has issued the following statement: "The National Health Service Bill presented to the United Kingdom by Mr. Bevan does not relate to Northern Ireland. The Northern Ireland Government is not yet in a position to announce its policy with regard to future hospitals and other medical services. No announcement on this will be made until after the Minister of Health and Local Government (Mr. William Grant) has had consultations with appropriate bodies." Up to the time of sending this letter no further information on the above points has been made.

Death of Sir Harold Stiles, K.B.G., M.B., C.M.

Sir Harold Talland Stiles, emeritus regius professor of clinical surgery in Edinburgh University Medical School, died on April 19th at his country home near Edinburgh, aged eighty-three. He was born at Spalding, Lincolnshire, England, the second son of Henry T. Stiles, a country practitioner who practised there and where his forbears had practised for some generations. Harold Stiles had an exceptionally brilliant career as a medical student. He practically swept the boards. After he had taken his degree in medicine, he practised there and made his home in Scotland. He had a large practice as a consultant. He retired twenty-one years ago and was an authority on cancer and children's diseases and a pioneer in surgical treatment of certain diseases.

St. Bartholomew's Hospital, London

St. Bartholomew's Hospital was founded in or about 1123 A.D. by Rahere or Rayer, court jester to Henry Beauclerc, youngest son of William the First of England. Rahere's lovely altar still exists in the beautiful church of St. Bartholomew the Great near the hospital. The hospital weathered the storm of the dissolution of church and public properties by Henry VIII through the public spirit of the citizens of London led by Thomas Gresham, then Lord Mayor. The first superintendent of the hospital was Thomas Vicary, sergeant surgeon to Henry VIII, Edward VI and Queens Mary and Elizabeth. Vicary was one of the earliest English writers on anatomy. William Harvey, discoverer of the circulation of the blood, was physician to the hospital during thirty-four years and in 1619 he first lectured on his discovery there. The hospital has been rebuilt recently.

University of Dublin Medical School

Mr. Adams Andrew McConnell has been appointed regius professor of surgery in the Medical School of Dublin University in succession to the late Sir Arthur Ball.

Price's "Textbook of Medicine"

A new edition of the *Textbook of Medicine* by various authors, edited by F. W. Price, the heart specialist of Harley Street, London W. 1., has been published recently. This authoritative textbook of medicine, well known and popular in the United States and Canada as well as in Europe, in its latest edition has been carefully revised and partly rewritten and brought up-to-date. This book has gone through many editions and from strength to strength.

Appointments at the Norfolk and Norwich Hospital

This hospital, one of the largest nonteaching institutions of its kind in England, has issued recently a list of its latest appointments to the staff. Among these are W. G. Rutledge from assistant ophthalmic surgeon to full honorary ophthalmic surgeon. He is also assistant commissioner for Norfolk St. John's Ambulance Brigade and honorary ophthalmic surgeon to Great Yarmouth Hospital, Norfolk and East Anglia School for the Blind and Deaf.

Child Health in Britain

Intense interest is being taken in the health of children in Britain. Institutes of child health are being established at some universities. Although this is a long step in the right direction in the opinion of many entitled to speak with authority, a widening in the outlook of pediatricians is called for, who as a rule are too greatly concerned with disease and its treatment and not with the prevention of disease and the development of normal healthy children.

Doctors' Letters

SOLOMON R. KAGAN, M.D.
Roxbury, Mass.

(*Continued from page* 366)

From Dr. James J. Walsh to Dr. Solomon R. Kagan

New York, N.Y.
My dear Dr. Kagan: January 16, 1934.

I am very glad indeed to have had the chance to look over the galleys. A number of the men whom you mention were dear friends. Dr. Simon Baruch lived only a couple of blocks away from me. Dr. N. Brill was an even closer friend and I watched his slow progress, he lived but a block away from me, through his painful disease with intense admiration for his brave attitude and fearless facing of it.

These galleys make me even prouder of the fact that I accepted your invitation to write the Introduction, and I hope it will be worthy of the book.

I knew Dr. Alfred Meyer very well and was aware of the trial through which his life carried him. I think that I would have assigned him more space if I had the writing of it, but you know better the comparative merit of the men.

With all good wishes, I am yours very sincerely,
Jas. J. Walsh.

* * *

New York, N.Y.
February 2, 1935.

Dear Dr. Kagan:

I do not know the names of any physicians that I thought might find a place in your book.[1] Dr. Maurice J. Lewi said that there were half a dozen whom he knew who ought to go in and he wondered at their omission. He was just on his way down to Florida so I did not ask him for details, but I am sure while he is down there he would be glad to jot down those you missed. I shall be writing to him before long and I shall ask him to do so.

I have asked my secretary to give you some of the details that you have suggested with regard to my bibliography. I think that the medical profession has become much more historically and biographically minded in recent years and that very probably there would be a good deal of interest in a book of that kind, though I hestitate about my own inclusion in it, for after all I have only cultivated it as a hobby and when you have ink in your blood it has to come out.

With all good wishes, yours very sincerely,
Jas. J. Walsh.

[1]It refers to **Jewish Contributions to Medicine in America.**

* * *

New York, N.Y.
December 23, 1939.

My dear Dr. Kagan:

I shall be glad to have a copy of the new edition of *Jewish Contributions,* and I know just the man into whose hands I would like to place it. I am very glad indeed to know that it has gone into a second printing. I think that it deserves that distinction, which does not often come to medical books.

My best wishes for a happy holiday, and many of them. Yours very sincerely, Jas. J. Walsh.

New York, N.Y.
My dear Dr. Kagan: September 26, 1940.

Perhaps you have heard the enclosed anecdotes before. However, they have a lesson all their own that makes them worth repeating[2].

If they have not been published already, you may find them useful. I think, if you do use them, I would rather not have them labeled as coming from me. Yours very sincerely, Jas. J. Walsh.

[2]These anecdotes refer to the lives of Abraham Jacobi and of Sir William Osler.

* * *

New York, N.Y.
March 22, 1941.

My dear Dr. Kagan:

Dr. Andrew D. White was president of Cornell University for many years, indeed he was the first non-clergyman to hold that office.

I saw the reprint with regard to Morrell Mackenzie, and I was much interested in it. I was in Berlin for over a year, about five years after Mackenzie had treated the Emperor, and there was then a great disturbance of the medical and surgical mind over the memory of an outsider caring for the Emperor, instead of having a German physician do it. I think that the choice of doctor was greatly influenced by the Empress. She was the eldest daughter of Queen Victoria, so you can understand how difficult the whole matter was.

With all good wishes, I am
Yours very sincerely, Jas. J. Walsh.

From Dr. Lewellys F. Barker to Dr. Solomon R. Kagan

Baltimore, Md.
Dear Dr. Kagan: June 14, 1941.

Pardon my delay in replying to your letter of June 3rd, but my folder of materials bearing upon Dr. Welch had been mislaid. I have now found it and am enclosing five of his letters, which as far as I know have not been published[3]. Will you be kind enough to return them to me later on as of course I prize them highly.

Very sincerely yours, Lewellys F. Barker.

[3]These letters of Dr. William H. Welch to Dr. Barker and Mrs. Barker were published by me in my book **Leaders of Medicine,** 155-157, Boston, 1941.

From Dr. Leo Buerger to Dr. Solomon R. Kagan

New York, N.Y.
March 21, 1942.

Dear Dr. Kagan:

Many years have elapsed since the pleasure of conversing with you being experienced. May you return to New York in the near future and give me the opportunity of shaking you by hand.

The caption of my letterhead is self-explanatory of the location of my present office. Like the wandering Jew, here I am after two migrations to California; and here we—my dear wife and self—expect to remain.

Photo is being mailed separately.

Kindly send me copy of 1941 edition of your admirable work: *Leaders of Medicine,* and of the *Medical World* when it appears.

Sincerely yours, Leo Buerger.

Dear Doctor: March 25, 1942.

How sedulous you have been; how diligent; how assiduous in your unremitting attention, quest and diligent searching inquiry into the important features of the careers of some of our medical leaders!

An excellent expository example of artistic letters; a beautiful contribution to our appreciation of the humanities; the little but valuable work just sent to me! May it be inductive of graduation!

My humble self depicted in a photo was mailed today. Sincerely, Leo Buerger.

From Sir Humphry Rolleston to Dr. Solomon R. Kagan

Martins, Haslemer, Surrey, England

Dear Dr. Kagan: 14. V. 38.

Thank you for your letter and the *Life of Solis-Cohen* which I should have acknowledged with sincere appreciation.

As regards Garrison's letter to me: I think that I ought to offer them to the Army Medical Library, as sometime ago I spoke about him there. Would you therefore be so kind as to arrange this? Re Neuburger Fest Kommittee: I am so busy that I could not undertake it and would not like to take it up. But in any case Singer would be a much better man to do it. As regards the notice you kindly suggest about myself: most of the items are in *Who's Who*, e.g., my father George Rolleston (1829-81) was F.R.G., Linacre Professor of Anatomy and Physiology at Oxford, and my great uncle was Sir Humphry Davy, P.R.G. the chemist.

As regards eminent physicians during the last fifty years: "are they not written" in Garrison? I enclose a few papers and suggestions.

Yours sincerely, H. Rolleston.

* * *

Dear Dr. Kagan: 30. vii. 38.

Your most interesting book has arrived and you must let me congratulate you as well as thank you very cordially. I had never seen before the frontispiece portrait of Garrison, so appropriately holding a book in a library.

With repeated thanks,

Yours sincerely, H. D. Rolleston.

* * *

Martins, Haslemere, Surrey, England
29: 18: 41.

Dear Dr. Kagan:

Thank you very much for your kindness in sending me the attractive *Leaders of Medicine* which I have been reading with much interest. I will arrange for a review in the *Practitioner*.

With best wishes for its success

Yours sincerely, Humphry Rolleston.

From Sir D'Ancy Power to Col. Harold W. Jones

Cavendish Square, W., London
Oct. 22, 1937.

Dear Col. Jones:

I am delighted to receive your letter of the 7th inst saying that the new volumes of the fourth series will arrive in due course and I am greatly honored by being placed on so select a list. Please accept my very best thanks. There is rarely a day when I do not consult the Index Catalogue for I have acquired the unusual habit of verifying my references.

I must now be one of the few who have seen Dr. Billings actually at work before he published the first volume. My father was editing *Mayne's Lexicon* with Leonard Sedgwick and Dr. Billings stayed one week end with us. He brought an enormous pile of journals with him, asked for a clothes basket and proceeded to cut them up and throw the pieces into the basket. My natural curiosity made me ask what he was doing it for and I was told that he was going to sort them on his way back. I did not then realize what was the use of such destruction, now I understand.

Next time you are over here do come and see me.

D'Arcy Power.

From Dr. Hugh Young to Dr. Soloman Kagan

Baltimore, Md.

My dear Dr. Kagan: December 4, 1940.

Thank you for your kind letter. I am greatly flattered.

You ask about Welch's illness in the hospital. I am sending you a copy of a letter I wrote Harvey Cushing. I believe this will give you what you want.

I don't feel in a position to give you much new on Osler. You will find that dealt with at length in Cushing's *Life of Osler* and also in Dr. Thayer's books.

I appreciate immensely what you have sent me on yellow paper and which you propose to use. These are very apropos and I thank you for quoting them from my book.

I wish to thank you for the book on Dr. Garrison. He was a great friend of mine, and a wonderful fellow.

Sincerely yours, Hugh Young.

Dear Doctor Kagan: June 1, 1939

My name has apparently become identified with two eye signs. The one of which you spoke, "A Bruit over the Eyeball in Exophthalmic Goiter", appeared in a paper published in the *Journal of the American Medical Association*, April 29, 1916, pp. 1381 and 1382. The other, "Soft Eyeball in Diabetic Coma", appeared in the *Science Journal*, January 8, 1916.

I might add that I have described several other physical signs, for example, "ulnar percussion", in the *Journal of the American Medical Association*, June 24, 1922, and "transdigital auscultation", in *American Medicine, VIX No.* 16, *pg.* 641-642, April 22, 1905. In the *American Journal of the Medical Sciences*, Vol. 159, I called attention to inversion of the diaphragm as the result of pleural effusion, producing an abdominal tumor.

Ludwig Courvoisier, 1843-1918, strange to say, was a German-Swiss. He called attention to the fact that when there is obstruction of the common bile duct from external pressure, as in cancer of the head of the pancreas, the gallbladder is enlarged, while in the case of gallstones in the bile duct, the gallbladder is usually not enlarged. This is known as Courvoisier's law.

Very truly yours, David Riesman

Book Reviews

Neurosyphilis

Neurosyphilis. By H. HOUSTON MERRITT, M.A., A.B., professor of clinical neurology, College of Physicians and Surgeons, Columbia University; RAYMOND D. ADAMS, M.D., neuropathologist and visiting neurologist, Boston City Hospital; and HARRY C. SOLOMON, M.D., professor of psychiatry, Harvard Medical School. Illustrated. New York: Oxford University Press, 1946. Pp. 443.

The clinical and pathological data on which this study is based were supplied by the neurological wards of Boston City Hospital and Boston Psychopathic Hospital. It is thought that working over this source material would give a cross-section of what one might expect to find in any like study elsewhere.

Gowers is quoted as stating that "We know most about the pathology of diseases we fail to cure", and he seems to think that we depend largely on "accidents" as to the real nature of disease. This would seem to negate research and all attempts to get at the "roots" of such insidious conditions as syphilis of the nervous system. One can hope that no such idea will fasten itself upon the young enthusiastic researchers who are springing up in various medical centers since World War II. The world needs them and must encourage them by grants and all possible facilities. Syphilis does not attack the nervous system at once. The spirochetes may lie dormant in the system for many years before they assert themselves in cell, ganglion and dendrite. If we fail to prevent this, we have not "cured" syphilis when it ought to have been cured, in spite of the fact that we now have such new powerful agents as penicillin at our command.

Neurosyphilis is deep-seated, persistent, and probably ineradicable from nerve tissue, once it has begun to destroy or replace this by connective tissue. However, some cells and some fibers are always spared. It is upon these that we should work in order to keep the afflicted one as comfortable as possible during his remaining years.

Electrocardiography

Clinical Electrocardiography. By DAVID SCHERF, M.D., F.A.C.P., associate professor of medicine, and LINN J. BOYD, M.D., F.A.C.P., professor of medicine, New York Medical College, Flower and Fifth Avenue Hospitals. Second edition. Illustrated. Philadelphia, London, and Montreal: J. B. Lippincott Co., 1946. Pp. 267. Price $8.00.

The authors state that this science requires a large acquaintance with "rules and laws". That may be one reason why so few of us who are not cardiologists become proficient in reading the graphs sent to us! It is asserted that electrocardiography "deserves more extensive use". But, on the other hand, "great care should be exercised in drawing conclusions from the electrocardiogram alone". Somewhere in between, this relatively new laboratory procedure can be of great assistance. But the wide variations in interpretation make a "positive diagnosis" sometimes incredible since "quiet standing can provoke abnormal electrocardiograms". In one instance known to this reviewer, a physician submitted to this graphic study and was told that the picture showed he had a normal heart. The following day he dropped dead in his office. The diagnosis was coronary thrombosis.

Heart disease is an evergrowing cause of sudden death. It may be assumed that there is a type of disorder which gives few or no symptoms, or is misdiagnosed as indigestion, especially if there is flatulence. The innervation of the heart muscle is only partially understood, although the anatomy is quite well known. Cardiac physiology, especially in relation to pseudo-function, is still something of a mystery. Just what is a "perfectly normal heart" is subject to wide discussion. Even more important than a definite diagnosis is the etiology of sudden heart failure. We know a great deal about the infective types and still more about the gross pathology as seen in the mortuary, but this has seemed to aid us little in prevention or treatment. Cardiology is, in so far as we have gone, a somewhat discouraging field. Perhaps we have been spending too much effort in the wrong direction, and not enough on microbiology and the consequences of severe systemic infections viewed from the prevention angle. This is an excellent book of its kind.

Clinical Medicine

Modern Management in Clinical Medicine. By F. KENNETH ALBRECHT, M.D., S.A. surgeon U.S. Public Health Service. Illustrated. Baltimore: The Williams & Wilkins Co., 1946. Pp. 1238. Price $10.00.

Dr. Albrecht takes the attitude of a medical reporter, one who brings medical facts to the reader after sorting them over carefully. This calls for judgment of a high order in the selection of material. The plan of the book is to present to the busy practitioner data concerning diagnosis, differential diagnosis and treatment which shall be adequate and yet brief.

Procedures and case-study methods here set down conform to accepted usage in the best teaching centers, but it is not the author's purpose to "Fordize" medical knowledge, since there are no short cuts in successful daily practice, and the individual physician and patient must supplement each other in cooperative effort. Dr. Albrecht says that he has acted chiefly as editor and compiler of this book ". . . its true writers are the many who have contributed to medical literature in the past few years."

Chapter I deals with the technique of taking a good history, the items to be arranged alphabetically, beginning with chills and ending with vomiting. There is a printed case history form which, if followed implicitly will cover every conceivable point which ought to be "in the record." Chapter II discusses nutrition and vitamin deficiency. In the management of obesity, the author advocates benzedrine, but always under the eye of a physician. It does away with the desire for between-meals indulgence and the before-bedtime snack. Contraindications such as hypertension and cardiac incapacity are mentioned. No "habit" has been formed in his series.

Other chapters take up the main bodily "systems" seriatim. Then come endocrine disturbances, aller-

gies, infectious diseases, nervous and mental diseases, the skin, and geriatrics. An appendix lists "routine procedures" and "diets". This is not only an exceedingly useful and comprehensive reference book, but the text affords good reading. It brings the consultant to the bedside.

Pathology

Synopsis of Pathology. By W. A. D. ANDERSON, M.D., F.A.C.P., professor of pathology and bacteriology, Marquette University School of Medicine; pathologist, St. Joseph's Hospital, Milwaukee, Wisc. Second edition. With 327 text illustrations and 15 color plates. St. Louis: The C. V. Mosby Co., 1946. Pp. 741. Price $6.50.

This is the second edition—the first came out in 1942. The purpose of the book was then stated to be "to fill a gap . . . between the very elementary manuals of pathology and the abundant excellent larger textbooks and reference works." The medical and dental student is in need of condensed works of this kind for review. This is especially true of pathology in these days because it "covers" anatomy, histology, embryology, physiology, biochemistry and bacteriology and affords a liaison with clinical medicine. How to simplify the complexities of modern medicine and how to offer related subjects in readily understood and well remembered language is the acme of medical teaching.

In this revision an attempt has been made to follow the plan of the first edition; namely, a concise, comprehensive, adequate presentation. The illustrations have been increased to 327 of which seventy-four are new. Four new color plates have been added. Recognizing the newer knowledge which has come out of war medicine, tropical disease has been given fuller consideration, and diseases caused by parasites, worms and viruses are detailed. Epidemic hepatitis and blast injuries are described. The final chapter (25) deals with the nervous system and includes such subjects as the brain under malignant hypertension, encephalitis, epilepsy and the major psychoses. Some forty-four references are listed to aid those who wish to consult other and larger volumes which describe nervous and mental maladies.

This is an ideal book for those who are about to take "refresher courses".

Clinical Neurology

The *Basis of Clinical Neurology.* The Anatomy and Physiology of the Nervous System in Their Application to Clinical Neurology. By SAMUEL BROCK, M.D., professor of neurology, College of Medicine, New York University. Second Edition. With illustrations. Baltimore: The Williams & Wilkins Co., 1945. Pp. 393. Price $5.50.

The author rightfully says that "The past teaches us that the abstract neurophysiology of today becomes an instrument of clinical neurology tomorrow." In general a medical student dreads the mental drudgery which complex neuroanatomy requires. The pathways in brain and spinal cord are devious. They cross and crisscross in seemingly endless ways. But if one will take the time and trouble to follow them through, he will profit greatly in his understanding of some baffling diagnostic problems. Clinic, ward and sickroom are replete with these problems, and a knowledge of neurohistology and neuropathology combined with a complete physical examination will greatly help in their solution. In his introduction the late Dr. Frederick Tilney stresses the importance of the study of human neuroanatomy, both gross and microscopic, rather than placing too much dependence upon analogy in the "lower vertebrates." The marked changes which disease makes in brain and cord, when studied from this angle, have made astute and correct diagnosis possible in the living.

It is only fair to say, however, that in this field therapeutic nihilism reaches its lowest depths. That is chiefly because the marked structural alterations in cells and fibers are irreversible. "There is so little one can do", is the phrase commonly heard. That is, of course, to be admitted in certain circumstances, but when "causes" are better known and early diagnosis is well established, this situation will change. It has already done so, and relief, if not complete cure, is now being brought more and more frequently to the patient. A careful study of Dr. Brock's well-written volume will help every physician to help his patient.

The Adrenal Glands

Diseases of the Adrenals. By LOUIS J. SOFFER, M.D., adjunct attending physician, Mt. Sinai Hospital, New York. Illustrated with forty-two engravings and two colored plates. Philadelphia: Lea & Febiger, 1946. Pp. 304. Price $5.50.

The foreword by Dr. George Baehr calls attention to the status of the endocrines twenty-five years ago and today. Then our knowledge was based chiefly on clinical study of patients, and guesswork. Now we have physiological and organic chemistry as aids in understanding the glands of internal secretion. Dr. Baehr speaks of "the deluge of therapeutic preparations" containing this or that endocrine or hormone, but he seems to say that they save life and ameliorate disease when adequate recognition is given to scientific indications and dangers.

Dr. Addison, almost a century ago, made an intensive study of the adrenals and he seems to have been the first to understand the effect of these diseased organs on the body economy, but he did not have laboratory and other aids at hand to make his study complete. Knowledge of adrenal function is basic in understanding other endocrines and biochemical problems in general. Fortunately, incidence of disease of the adrenals in so far as it is recognizable, is small, but as the author says, "the importance of these organs transcends their statistical morbidity significance". What a clinician wishes especially to know is the relationship of the endocrines or glands of internal secretion to each other. Any disharmony in their associated action upon metabolism and general bodily processes causes symptoms which may be baffling and not easily managed. So much has been left heretofore to medical imagination with results which may have been not beneficial to the patient, that any knowledge such as is set forth in this book is precious. But we still have far to go in regard to the pituitary, the thyroid, the pineal and, perhaps, some other glands. Intensive studies such as Dr. Soffer's are needed of each of the endocrines in spite of what has already been done.

Neurological Diagnosis

Practical Neurological Diagnosis. With Special Reference to the Problems of Neurosurgery. By R. GLEN SPURLING, M.D., clinical professor of neurosurgery, University of Louisville School of Medicine. Third edition. Illustrated. Springfield: Charles C. Thomas, 1945. Pp. 237. Price $4.00.

This new edition presents simple accounts of the principles of neurological diagnosis designed for students and practitioners. It is not a glossary of symptoms and signs but a clear discussion of neurological approaches essential for accurate diagnosis. The text is reinforced with data to explain anatomical and physiological bases for the clinical interpretation of neurological manifestations. Additional chapters reveal the nature of cerebrospinal fluid and xray interpretation. As a whole it is better than most synopses used in neurological clinics for it is an adequate guide to all organic disorders of the nervous system. Surgical lesions often come to the neurosurgeon in their final states so the author tends to obviate this by making the practitioner neurologically minded.

Psychiatry

Psychiatry Today and Tomorrow. By SAMUEL Z. ORGEL, M.D., consulting psychiatrist, Miriam Barnert Memorial Hospital, Paterson, N. J., attending physiciatrist, Hillside Hospital, Bellerose, N. Y., New York: International Universities Press, 1946. Pp. 514. Price $6.00.

The growing interest in the integration and disintegration of the human personality which Freud has shown to be living and dynamic has caused the practitioner to seek more detailed knowledge of psychiatry. The author has, therefore, attempted to present detailed information on mental diseases, mental deficiencies, mental mechanisms, psychological development and psychoanalysis. The scientific language of psychiatry has been simplified by means of a glossary of definitions. Each chapter treats disease in group form after a historial summary, classification, interpretation of mechanisms, prevention and finally treatment. The material crystallizes the current concepts of mental disorders in terms of the underlying forces that disrupt personality and methods have been evolved for the reversal of these phenomena. An excellent attempt has been made to present the facts clearly and concisely without resorting to too technical terminology, hence the book is not only of value to the practitioner but to the social worker and psychiatric nurse.

Gynecology

Gynecology. With a section on female urology. By LAWRENCE R. WHARTON, Ph.B., M.D., associate in gynecology, Johns Hopkins Medical School. With 444 illustrations. Philadelphia and London: W. B. Saunders Company, 1943. Pp. 1006. Price $10.00.

This is a good book. As the author says in his preface, there have been many changes in the principles and practices of gynecology in recent years. Gynecology was considered as an integral part in the surgical field; but with the advent of more recent knowledge and the scientific use of hormones, the field of gynecology has broadened so that the field of endocrinology and diagnostic procedure are now an integral part. Therefore, a textbook written by a man like Wharton, who has been actively engaged during the transition period, is of real value.

We should say that he has maintained an extremely good balance between sound surgical procedures and the basic utilization of hormone therapy. The arrangement of the book is excellent. Each chapter contains a running index of its contents which facilitates the use of the book. The chapters on urology occupy about they should be incorporated in any book on gynecology twenty-five percent of the book and we firmly believe because of the close association of the urogenital tracts.

Orthopedics

Principles of Orthopedic Surgery. By JAMES WARREN SEVER, M.D., assistant professor of orthopedic surgery, Harvard Medical School; orthopedic surgeon, Children's Hospital, Boston, etc. Third edition. New York: The Macmillan Company, 1940. Price $3.25.

This little book is based on a series of lectures given to students. It reveals the underlying principles involved in orthopedics as well as the most accepted methods of treatment. The objective is that of the specialty itself, which the name orthopedics connotes, straight child. The common disorders are presented with such lucidity that even the surgical aspects become clear to the nonsurgically trained student or physician. As an introduction to the subject this book is an invaluable aid in orienting the practitioner with the current concept and procedures of everyday orthopedics.

The Peripheral Circulation

Vascular Responses in the Extremities of Man in Health and Disease. By DAVID I. ABRAMSON, M.D., F.A.C.P., associate in charge of cardiovascular research, May Institute for Medical Research of the Jewish Hospital, Cincinnati. Illustrated. Chicago: University of Chicago Press, 1944. Pp. 412. Price $5.00.

This is a study of the physiology of the peripheral circulation. There are various causes for changes in the surface blood flow, some are of bacterial origin, some traumatic, some "idiopathic", which means that we are still ignorant. Phlebitis is an important and much neglected subject. Save for "milk leg", not very much interest has been shown in it by the average practitioner of medicine. Some enthusiasts, notably Otto Meyer, an American physician who has written much in the foreign literature (German), are convinced that focal infections are the chief cause, and Meyer pays especial attention to tonsils and teeth as the sources of bacterial phlebitis. It is entirely plausible, for example, that leg ulcers are caused by improper circulation of the venous blood, secondary to bacterial action in the veins. In this study, experiments on animals have been secondary to the data obtained from observations on human subjects, which seems quite as it should be. Perhaps the most important section of the book deals with the clinical application of blood flow studies. Changes in peripheral circulation due to systemic disorders or those seemingly of peripheral origin are described, based on the venous occlusion plethysmographic method which is well elucidated in the text. This book supplies the groundwork for further investigation along the lines laid down by the author. In this sense it is an important contribution. References at the end of each chapter seem to be unusually complete, although some of them are rather far afield from the essentials of therapeusis which is, of course, the main desideratum.

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JULY 1946

Medicolegal Notes

Unlawful Prescription of Narcotics as Basis for Revocation

The New York Appellate Division, Tonis vs. Board of Regents, 58 N.Y.S. 2d 766, in a proceeding to annul the revocation of a physician's license because of his conviction of two violations of section 2554 of the Internal Revenue Code, it appeared that in the first count of the indictment of the physician he was charged with the unlawful sale of twenty-one quarter grain tablets of a narcotic drug containing morphine sulphate to one person, and in the second count a similar sale to another person.

After his conviction the physician moved to amend the judgment. This the Federal District Court did to state that the prescription was issued "not in the regular course of his practice but to an addict for a prohibited use, although the prescription was filled by a druggist who acted in good faith without knowledge that the prescription was unlawfully used." To the State Department of Education's notice to him that his license to practice medicine was subject to revocation because the offense to which he pleaded guilty was a felony, the physician contended that his crime was a misdemeanor and not a felony, under the laws of New York State. This contention the Appellate Division held to be without merit. "The crime to which he pleaded guilty is a felony under the laws of the national and state governments," the court said, citing statutes and court decisions. "The petitioner's crime was completed when he unlawfully issued the prescription. The issuing of the prescription constituted a sale within the meaning of the statutes to which we have referred as interpreted by the authorities which we have cited."

Justice Brewster dissented pointing out that the District Court's amended judgment, as quoted above, gave rise to the question whether under the laws of New York State the act of a physician in unlawfully prescribing a narcotic drug is a felony or a misdemeanor, and continuing in a dissenting opinion, he said: "Note is to be taken that petitioner's act was only that of prescribing and such was not performed in concert or conspiracy with any other person whereby the drug was sold or otherwise dispensed. In my opinion under the laws of New York State the offense was not a felony but a misdemeanor."

Breathing Illuminating Gas While Asleep Is Not "Inhaling"

Breathing illuminating gas while asleep does not constitute "inhaling" gas within a life policy excepting from double indemnity benefits death resulting directly or indirectly from the taking of poison or the inhaling of gas, whether "accidental or otherwise," because this quoted phrase does not negative the element of volition in the word "inhaling." Levinson vs. Reliance Life Ins. Co., Maryland Court of Appeals, 41 A. 2d 485. The sole question in the case was the construction of the excepting clause, and the court did not find and was not referred to any Maryland authority directly in point.

The allegation of death from asphyxiation by illuminating gas was held tantamount to an allegation that the gas was breathed. The point being a narrow one, the court examined authorities in other jurisdictions minutely. The policy was issued by a Pennsylvania corporation in 1935. In the face of decisions in New York, Pennsylvania, Illinois and other states, the court would not say that the language used was so plain as to be wholly unambiguous. "If the company had desired to limit its liability in the light of the authorities it would have been easy to do so. A uniform construction is particularly desirable in this field."

Bequests; "Erect and Maintain" Held to Include "Acquire"

Under a will directing the organization of a non-profit corporation for the study, prevention and cure of tuberculosis and empowering the corporation to erect and maintain a free sanatorium and also to undertake the study, prevention, treatment and cure of any disease, New York County Surrogate's Court holds, in re Hastings' Estate, 182 Misc. 980, 51 N.Y.S. 2d 828, that such a corporation, when organized by the executors, is not required to construct a new building to house the sanatorium, but that it may acquire an existing structure, which it may repair, alter or otherwise improve to fit it for use in conformity with the testator's intentions.

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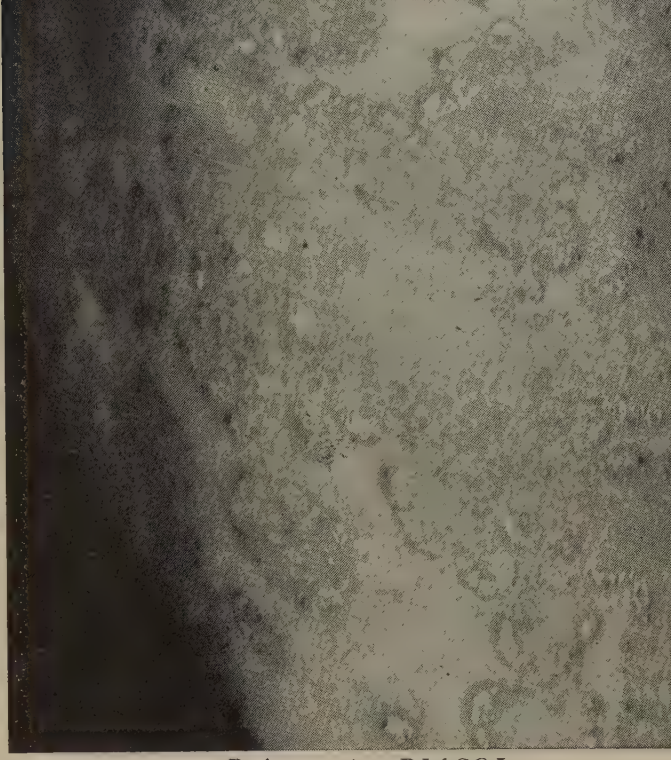

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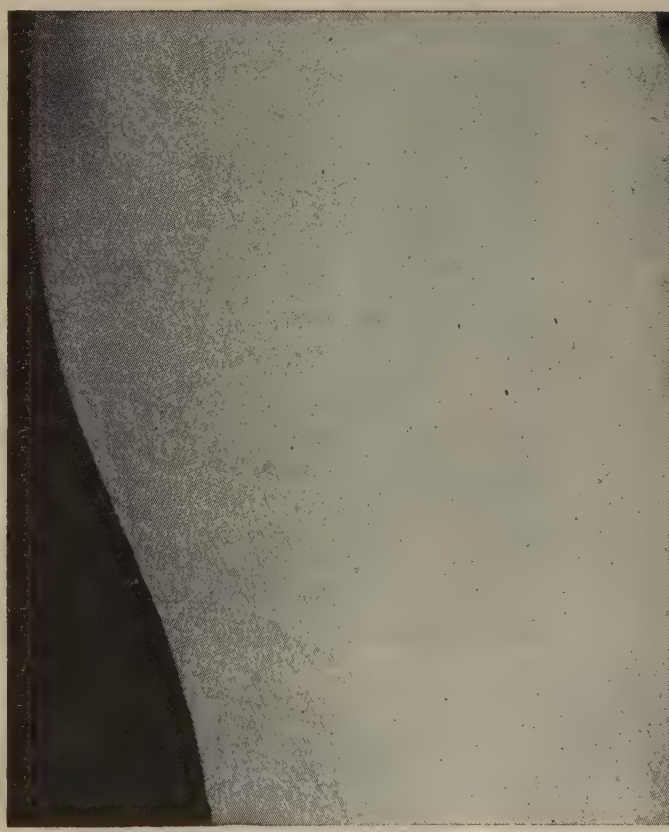

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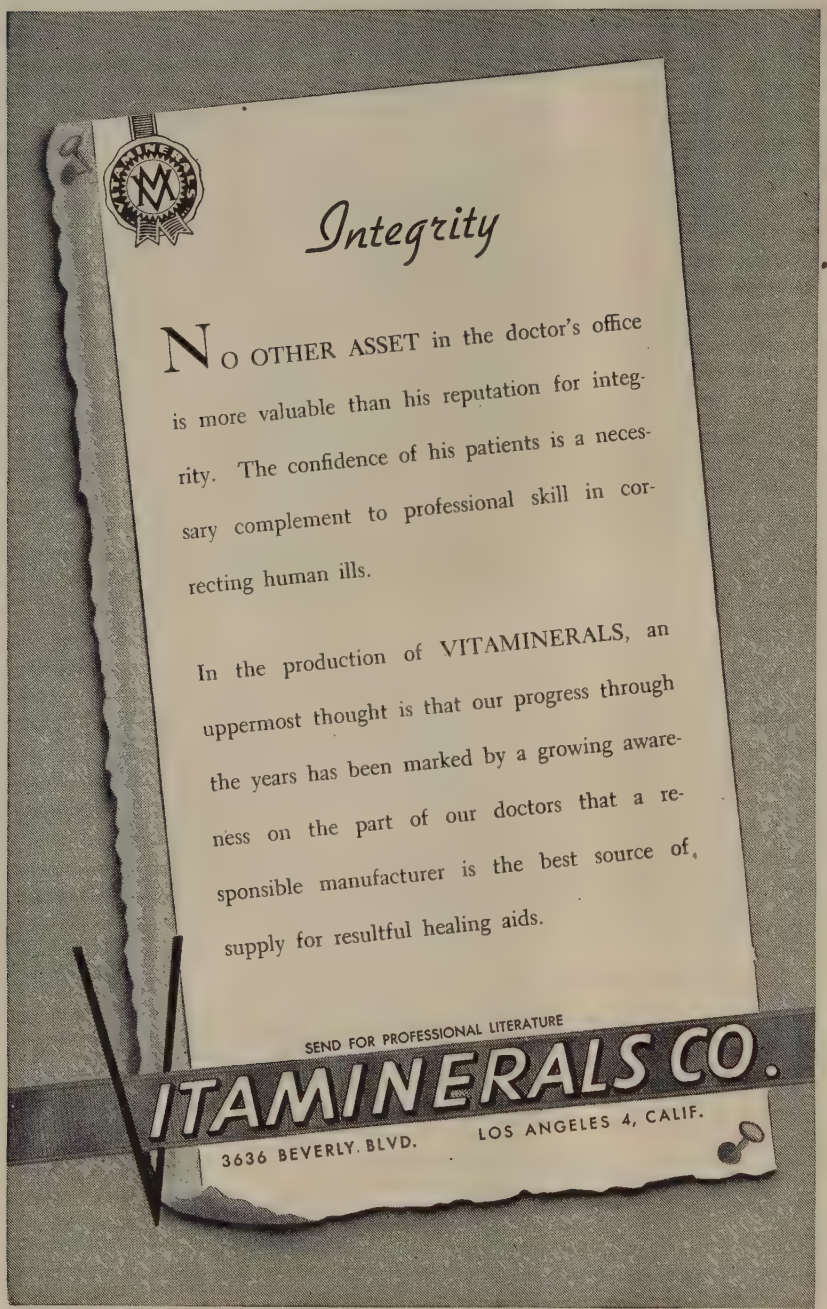
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State Mental Institutions Overcrowded

The population of New York State's twenty-six mental institutions, which declined during the war, has begun to resume its upward trend, according to Dr. Frederick MacCurdy, Commissioner of the State Department of Mental Hygiene, and he predicted larger increases in the future. The population of the twenty State hospitals for the mentally ill, the five State schools for mental defectives and the one State institution for epileptics reached a total of 103,335 persons on May 1, 1946, he said.

During the ten years prior to the war, the annual increase of patients averaged 3,478. Due to improved economic conditions and the withdrawal of large numbers of men and women from the state during the war, the population of the institutions had actually decreased 547 during 1943 and 957 during 1944, but with the close of the war there had been an increase of 773.

Dr. MacCurdy stated that overcrowding of the State institutions still continues to be serious. The twenty civil State hospitals for the mentally ill had an average overcrowding of 17.2 percent on May 1st. These institutions, whose rated capacity is 63,322, actually had on their books on that date 82,829—an excess of 10,838 patients over capacity. The average overcrowding in the five schools for mental defectives and the institution for epileptics was 25.4 percent on May 1st. These six institutions have a capacity of 13,542, but their census on May 1st was 20,506.

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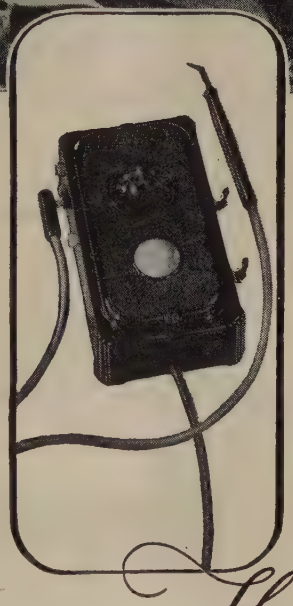
Child Guidance Clinics

The State Department of Mental Hygiene has announced a program of expansion of its child guidance clinics for the prevention of maladjustment, delinquency and mental illness. As the first step, three new child guidance clinic teams will be set up and four more will follow as soon as personnel becomes available. Four clinic teams are already operating.

The expanded program calls for the appointment of seven clinic teams in addition to the four teams now in operation. Each team is made up of a psychiatrist, a psychologist, two social workers, and a stenographer. The approximate number of clinics to be held monthly under the proposed program will be 350 as compared with 140 during the peak year of 1941. Most of the cases at child guidance clinics are referred from social agencies and schools which have been cooperating in the policy of treatment rather than diagnosis, by referring children with behavior and personality problems rather than purely educational problems.

The results after five years in 1,859 cases seen in the state's traveling child guidance clinics, were studied in a state wide survey of the accomplishments of existing clinics made in 1944. This survey showed 44.3 percent of the children were adjusted, 8 percent were much improved and 27.3 percent improved. Primary behavior disorders were most frequent, and there was a 29.5 percent adjustment in this group, and a 59.1 percent in those cases those cases presenting social problems.

MOTIVES OF MEN



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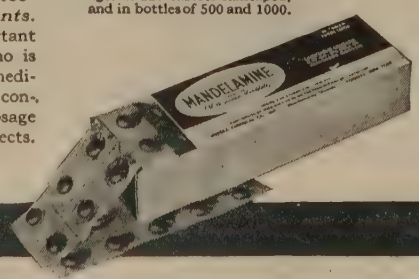

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Premedical Activities of Alpha Epsilon Delta

Continuing a program inaugurated several years ago, the Texas Alpha Chapter of Alpha Epsilon Delta, national honorary premedical fraternity, held its annual statewide premedical meeting at the University of Texas, in Austin, on June 1st. One hundred and thirty students and educators from seven schools in the state were in attendance. The afternoon program consisted of an illustrated lecture by Dr. Alfred Taylor, University of Texas, on the present status of the virus concept in cancer research, and a demonstration and lecture on the electron microscope by Dr. L. L. Antes, University of Texas microscopy specialist. A banquet was held in the main ballroom of the Stephen F. Austin Hotel. Dr. D. Bailey Calvin, dean of student affairs, medical branch of the University of Texas, Galveston, acted as toastmaster. Addresses were delivered by Dr. Sol Haberman, Dallas, on "The Rh blood factor" and Dr. D. B. Klein, professor of psychology, University of Texas, who discussed "The human element in medicine."

Dr. O. B. Williams, professor of bacteriology, is faculty adviser for the chapter.

The Kentucky Alpha Chapter of Alpha Epsilon Delta, national honorary premedical fraternity at the University of Louisville, held its initiation ceremonies and banquet on June 5th. Dr. Williams, Louisville, was the guest speaker, and the topic of his address was "The history of anesthesia". Drs. Hill and S. Kornhauser of the Medical

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School and Dr. C. C. Vernon, professor of chemistry, University of Louisville, were also guests.

Dr. C. C. Vernon is faculty adviser for the chapter.

Estimation of Vitamin A in Blood Serum

Albert E. Sobel and Harold Werbin, Brooklyn, N. Y., read a paper before the Biological Division of the American Chemical Society at Atlantic City, N. J., in which they stated that a new method had been developed for the estimation of vitamin A in blood. They believe that the comparative simplicity of the method will make it a routine procedure in all hospital laboratories.

They point out that the determination of vitamin A in the blood is important, as a low vitamin value may indicate the following conditions: 1, vitamin A or B-carotene insufficiency in the diet; 2, a bad liver which cannot convert B-carotene to vitamin A; 3, absence of bile secretion indicating poor bile formation or blocking of the ducts leading to the intestine; 4, poor intestine incapable of absorbing fat-like substances; 5, lack of pancreatic secretion indicating degeneration of the cellular structure of the pancreas. In making a differential diagnosis the physician makes use of the following facts: In nutritional deficiency the blood level rises after feeding vitamin A. In pancreatic degeneration the blood level rises following the administration of only one form of vitamin A, namely, the ester. In all the remaining cases, the vitamin A level undergoes only small changes after the administration of vitamin A or its ester.

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[1] Guterman, H. S., "Prediction of Fate of Threatened Abortion by Pregnandiol." J. A. M. A. 131:378 (June 1) 1946.

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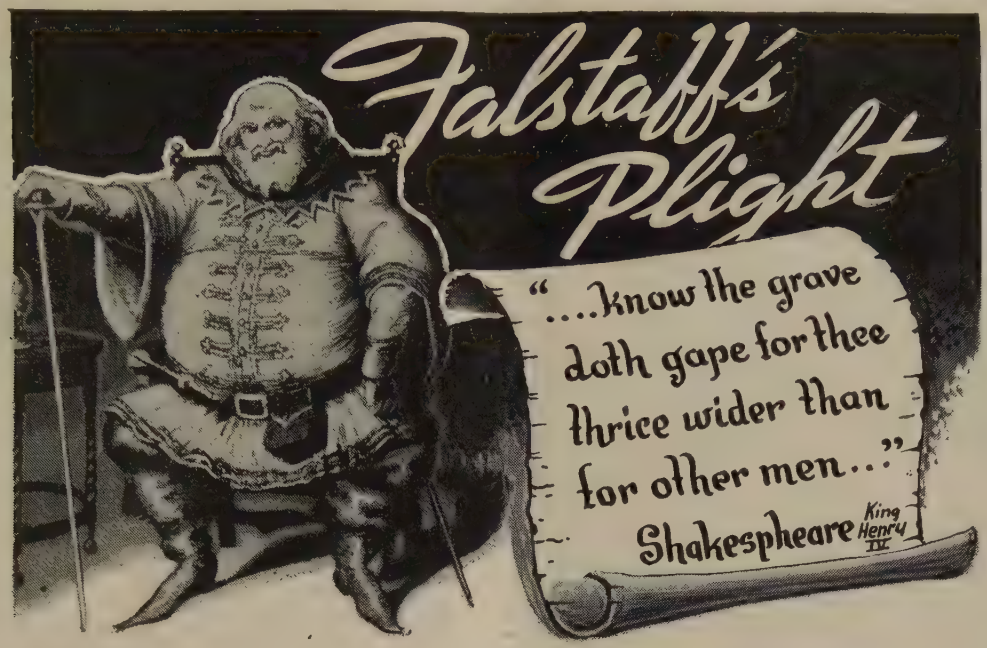
Two New Films Available for Tuberculosis Control

Two motion pictures on tuberculosis case-finding with miniature film mass radiography of the chest have been completed for the U. S. Public Health Service, under the supervision of the Tuberculosis Control Division. The films demonstrate the techniques, the staff, procedures and equipment required for: 1, routine admission miniature film chest x ray examination of all patients and personnel entering general hospitals; 2, miniature film mass radiography in community tuberculosis case-finding programs. These are teaching and orientation films for an audience of professional, technical, or administrative personnel, or trainees, in the fields of medicine, public health, and hospital care. The film prints are 16 mm. size, black and white, with sound.

The routine admission chest x ray film was photographed at University Hospital, Ann Arbor, Michigan. After an introductory statement about mass radiography by Dr. Fred J. Hodges, of the department of roentgenology, the film shows the step by step sequence of routine miniature film chest x ray service for all patients admitted to the hospital or clinic. Case histories are reenacted and the corresponding x ray films shown, to demonstrate the efficiency and benefits of this service. Animated drawings are used to illustrate the operation of the phototimer, to present case-finding statistics, and to demonstrate the physical arrangement of the admission chest x ray unit. Details of record keeping, of film processing, interpretation, reporting, and filing are presented. The film demonstrates the danger of undiagnosed tuberculosis in hospitals. It highlights the benefits of early diagnosis for treatment of nontuberculous as well as tuberculous pathology found in hospital patients as a group, when all receive routine chest x ray examination. The compactness, simplicity, speed and efficiency of miniature film chest x ray equipment are shown. Throughout the film are many scenes demonstrating the advantages, benefits, and practicability of miniature film x ray equipment and routine admission chest x ray service.

The second film provides community health leaders and public health personnel with an up-to-date and detailed procedure outline for administration and operation of miniature film mass radiography case-finding programs. It features the basic and the newest developments in equipment and techniques. The film reenacts a conference attended by representatives of official and voluntary health agencies, professional groups, labor and management, and then illustrates the functions and responsibilities of each —before, during, and following a typical mass radiography project. The second half of the film depicts an actual mass radiography project in operation.

A print of each film is available for short-term loan from Tuberculosis Control Division Consultants in the District Offices of the U. S. Public Health Service, or prints may be purchased from Castle Films, Inc., 30 Rockefeller Plaza, New York 20, N. Y.



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1. M. Rec., 158:420, 1945.

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Cancer Control Program

The report on cancer facilities and services recently released by the U. S. Public Health Service of the Federal Security Agency constitutes a blueprint for an accelerated cancer control program. This report was prepared by a committee of the National Advisory Cancer Council and contains specific recommendations concerning medical education and control programs for the disease which today ranks second as a cause of death in the U.S. These recommendations include more comprehensive and better integrated courses in cancer at medical schools; an increase in the number of centers prepared to give postgraduate training in cancer; and the continuation and expansion of the various kinds of cancer-education activities for practicing physicians that have been conducted in a number of communities.

The committee further recommends that the National Cancer Institute aid in the development of a few cancer centers strategically located geographically, associated with one or more medical centers, and available to any patient regardless of ability to pay. It is suggested that such centers would serve as guides in developing plans that could be applied anywhere in the country to insure to cancer patients the best that medical science has to offer in the way of diagnosis and treatment.

Expansion of the research work of the National Cancer Institute is advised, including the training of research fellows and the program of grants to aid research in other institutions. Also recommended is assistance from the National Cancer Institute to State health departments and other agencies in developing programs which will make available in a State an adequate cancer service.

The report describes the basic elements of such a service as statistical research to determine the extent of the cancer problem; educational activities for doctors, dentists, nurses and the general public; medical facilities and services, including cancer prevention or detection clinics, tissue diagnostic services, diagnostic and treatment clinics (one for approximately fifty thousand population), an adequate number of hospital beds, and facilities for the care of the advanced cancer patient either in his own home or an appropriate institution.

Close cooperation is urged between the National Cancer Institute and voluntary agencies in the development of cancer control activities.

The members of the committee responsible for the report were Dr. George M. Smith, Yale University School of Medicine; Dr. Frank Adair, Memorial Hospital New York City; and Dr. Sherwood Moore, Mallinckrodt Institute of Radiology, St. Louis, Mo.

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"Q" Fever Research

"Q" fever, a pneumonia-like disease first described from Australia, apparently is endemic around the Mediterranean area. Scattered outbreaks have been reported among American troops in Italy, Greece and Corsica.

Study of these outbreaks by medical officers on the spot at an Army General Medical Laboratory, and by the Commission on Acute Respiratory Diseases of the Surgeon General's Office have thrown considerable light on this supposedly rare illness and established that it is (essentially) identical with the socalled Balkan grippe which was epidemic in Greece in 1942. The responsible agent has been identified as a very minute, red-shaped organism belonging to the family of ricksettia, similar to the organism which causes typhus fever. It has been impossible to establish the means of transmission, except that evidence suggests that the "germ" apparently is inhaled in infected dust.

In laboratory outbreaks the disease appears to be extremely infectious. Accidental infections have occurred in almost every laboratory where experimental work with this ricksettia has been conducted. It is likely to be confused with atypical pneumonia, of which the causative agent has not been identified. The syndromes of the two are somewhat similar. A significant finding was that "fever ricksettia becomes much more virulent with successive passages through the blood of experimental animals." The malady comes suddenly with chills, sweats, aching muscles and frontal headache. The victim usually is incapacitated for two weeks or more. Until recently the disease had been considered a medical curiosity.

Research Benefits Mankind

Preparation for defense against attack of biological warfare—rival of the atomic bomb as a potential destroyer of civilization—paradoxically has led to scientific discoveries that will be of incalculable benefit to mankind, according to George W. Merck, formerly chairman of the United States Biological Warfare Committee, and special consultant to the Secretary of War. In addressing the George Westinghouse Centennial Forum, held in Pittsburgh, Pa., May 16th, Mr. Merck said that in research in biological warfare lies a firm promise of the control on a worldwide basis, of many diseases afflicting man and beast as well as plant life.

Perhaps no other type of warfare, he continued, can bring with it such a guarantee of good—economic advantages in agriculture, parallel gains in animal husbandry, and above all, vital contributions to the fight against human suffering. The investigations of this field and the revelation of its inherent quality of producing not only weapons and defenses but also fundamental and practical advances of knowledge and contributions to science, have necessitated the writing of a new chapter in biological science.

Through wartime research, information was obtained regarding the effect of more than one thou-

sand different chemical agents on living plants. This is a particularly fertile field and one that promises much to agriculture in the sectors of weed killers and selective plant control agents. The work was initiated to find destructive agents against various crops and was successful. The scientists in charge of this work have stated that eventually any living plant process may be brought under control through critical use of some growth regulating substance.

The pattern of the plant projects is no different from the general form of the entire biological warfare program or its other divisions, the animal and the human. It is obvious in all of them that there cannot help but be important advances in knowledge, many of them fundamental, and gains in scientific achievement, many of them capable of practical application." While biological warfare was not actually used in military operations, the findings of the United States and its Allies in this field have shown that this type of warfare must continue to receive serious considerations by those who are responsible for national security.

Health Work in Peru

Clarence I. Sterling, Jr., chief engineer and associate director of the Division of Health and Sanitation of the Institute of Inter-American Affairs, reports that the Peruvian government has turned over its two trans-Andean provinces of Loreto and San Martin to the Inter-American Cooperative Public Health Service with the request that it take full charge of the battle against disease there. Loreto, which is the largest of the nation's provinces, is infested with malaria, intestinal parasitosis, leishmaniasis, and other tropical maladies. The cooperative health service, or SCISP, a joint organization made up of seven United States health workers under the direction of Dr. Ernest B. Howard, Boston, Mass., and a number of Peruvian doctors, laboratory technicians, and engineers has been fighting disease in the area east of the Andes for about three years.

Antimalaria campaigns, including drainage of swamps, development of community sanitation, the building of hospitals and health centers for the control of disease, and the training of a corps of visiting nurses to locate the sources of contagions and to educate the people in health principles has greatly reduced the incidence of disease in several centers.

In awarding command of the battle against disease in the two provinces to the Inter-American Cooperative Public Health Service the Peruvian government turned over its national health service personnel, and all of its budgeted funds to the "Servicio." The government also voted the sum of 300,000 soles to rebuild the Iquitos health service storehouse, which was destroyed by fire. As a result of the success of the SCISP experiment in combatting disease, the Peruvian Health Ministry is also planning to set up a system of district health engineers to promote community sanitation and more healthful living conditions throughout the Republic.

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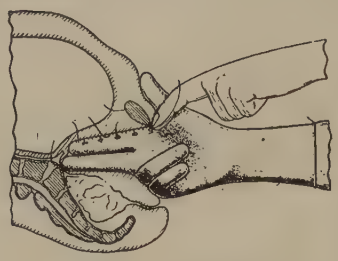

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Public Health Activities in Chile

Dr. Theodore I. Gandy, chief of the six-man Institute of Inter-American Affairs medical mission to the South American republic, reports that a large modern center of preventive medicine has been completed in Antofagasta, and that the five hundred bed Trudeau Tuberculosis Hospital in Santiago will be ready for use shortly. The United States field party, working with Chilean health officials in the Inter-American Cooperative Department of Public Health, helped to plan both of these institutions.

The Antofagasta health center includes prenatal and children's clinics, a venereal disease clinic, a dental clinic, tuberculosis clinic, a modern laboratory, a small pharmacy, a milk dispensary, public baths, a vaccination room, staff rooms and dressing room for physicians, an office of health statistics, a demonstration room, and a public auditorium. It also has quarters for the local health officials.

The cooperative health organization has in operation two similar health centers—one in Valparaiso, and the other in the capital city of Santiago. It also has helped to set up a national School of Public Health in the capital, to insure Chile of a continuous supply of trained personnel to direct her preventive medicine program. In addition, it has granted a number of fellowships to doctors, nurses, administrators, and engineers for study of public health methods in the United States.

Health education is one of the main concerns of the joint organization. A Chilean woman working with the group has helped to organize a National Association of Rural Teachers who will work to improve rural life in the Republic through health education projects.

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Improvements in Hay Fever Remedy

An improved formula for Neo-Synephrine Ophthalmic (one-eighth percent), used by physicians for the symptomatic relief of hay fever, is announced by the Frederick Stearns & Co. Division, Sterling Drug Inc.

What has been changed, according to Dr. Melville Sahyun, vice-president in charge of research, is the base vehicle, which has been newly buffered to retain all the preparation's original qualities and remain stingless when placed in the eye.

Long years of clinical study have demonstrated that Neo-Synephrine Ophthalmic (one-eighth percent) is especially useful for relief of the eye symptoms of hay fever by virtue of its decongestant action on the capillary bed of the conjunctiva and on edematous puncta lacrimalia (outlets of nasolacrimal canals) which may be blocking the nasolacrimal ducts. Its decongestant action contributes to relief from itching and excessive watering of the eyes.

Technical explanations of the improved base of the formula involve the maintenance of the desired pH., or the hydrogen ion concentration in an isotonic solution.

Under the new formula the pH of the Ophthalmic Solution (one-eighth percent) is 6.0. Stability tests have demonstrated that the new solution is not prone to alter its pH, nor is the Neo-Synephrine liable to oxidation. In addition, it has a uniform low surface tension which assures immediate uniform spread over the conjunctiva.

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American Chemical Society

Dr. Fred C. Koch, director of biochemical research at the Armour Laboratories and former head of the Department of Biochemistry in the University of Chicago, has been appointed general chairman of the one hundred and tenth national meeting of the American Chemical Society, which will be held in Chicago September 9th to 13th. More than eight thousand chemists, chemical engineers and representatives of allied fields will participate in the sessions, at which advances in the major branches of chemical science and industry will be reported. All of the Society's eighteen professional divisions will convene and several hundred papers will be presented at the meeting, the sixth to be held in Chicago since the Society was organized in 1876.

Among the special events on the five-day program will be a celebration sponsored by the Division of Sugar Chemistry and Technology in honor of Dr. Claude S. Hudson, director of the Division of Chemistry at the United States Public Health Service's National Institute of Health, Bethesda, Md., and one of the world's leading carbohydrate chemists. Outstanding American, Canadian and British scientists in this field will pay tribute to Dr. Hudson during the celebration, which will include a special symposium on "Current progress in carbohydrate chemistry". Important wartime deyelopments that will be discussed at sessions held by several divisions are contributions of organic chemistry to the war effort, wartime work on fluorine compounds and radiation chemistry. A High Polymer Forum will be held, continuing the series inaugurated at the Society's one hundred and ninth national meeting in Atlantic City, N. J., in April, and the history of chemical industries in the Chicago area will be discussed.

Five vice-chairmen have been named to aid Dr. Koch in organizing the convention. They are: Dr. Walter M. Urbain, Swift & Company; Dr. Ervin W. Hopkins, and Dr. Everett J. Hoffman, Armour Laboratories; Dr. Frank T. Gucker, Jr., Northwestern University, and Dr. Thomas F. Young, University of Chicago.

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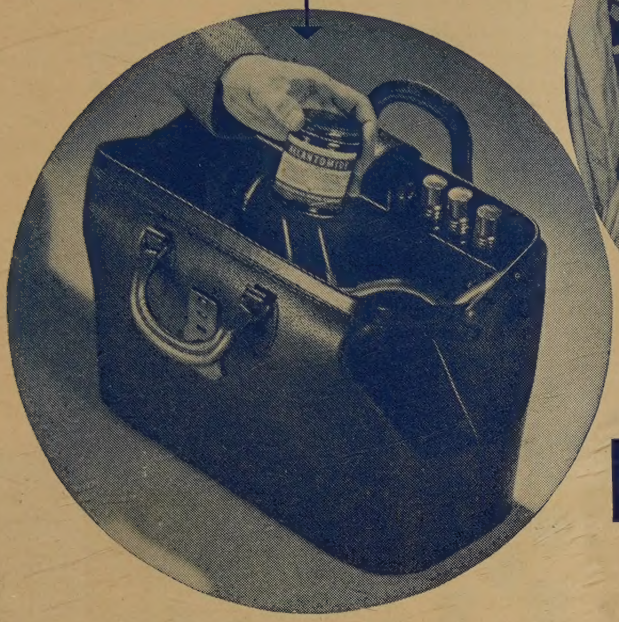

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